Computer Com

30 DP candidates take on the (Party) system

by Joho Rliey THE computer industry is fielding about 30 candidates in the General Election. They come from all sectors of the industry, and cover all

Margaret Joachim, an API. consultant with 1.P. Sharp Associates is standing for the Liherals against Mrs Thatcher in Barnet and l'inclulcy. "There is no point in propping up old industries - we ust develop the newer ones and make sure people can retrain and equip themselves," she said.
Other Liberal candidates in-

clude Ian Brook, who sells word



Richard Carden, a systems engineer with IBM Norwich (South Norfolk); John Hemming, senior consultant with software house SMS UK (Birmingham, Hail Green); Steven Mulholiand, a senior computer operator with Thamea Case (Wirrs) West); Ray Poynter, founding director of Database Computer Consultants

(Nottingham South); Leslie Stringer, administrative manager with Reliance Systems (Wellingborough) and John Waller, managing director of systems house Insurance Systems and Services



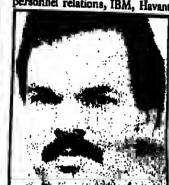
package was correctly calculated.

He odded that the other two re-

gional managers were watching his

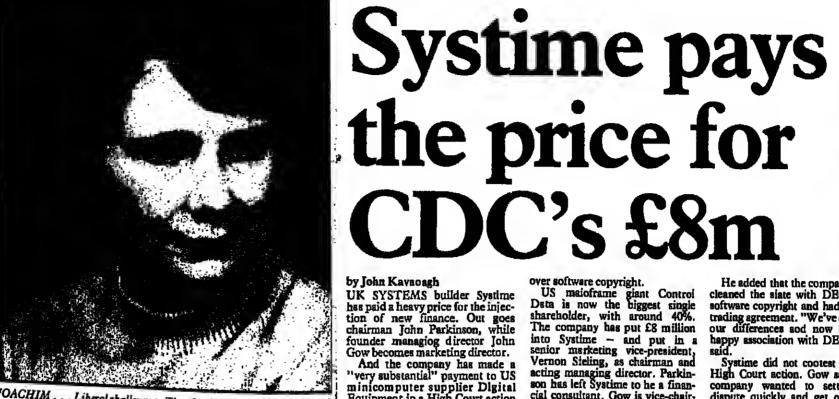
Peter Burton, managing director of Case (Computer and Systems Engineering) who is standing as SDP candidate for Watford, outlined the Alliance's differences with the other parties. "British Telecom is a good specific case. We are not in favour of total priva-tisation or nationalisation. We would divide it into two - the networking side to be kept public,

and the services and equipment aide to be privatised." Also standing for the SDP Party are Howard Gibson, manager of personnel relations, IBM, Havant



(Chichester); Kaiph Leishman, a computer audit specialist with a firm of chartered accountants (Cunningham North), and Lester George, managing director, Fer-ranti Instruments (Ellesmere

Timothy Wood, a project manager with ICL Reading, is standing for the Torics in Stevenage. He is one of those who developed George III, and produced a Bow Group pamphlet on the use and manufacture of computers which has influenced the present government. Other Conservatives include Leslie Lawrence, a software engineer with Sperry in the maintenance and support group for V77
minis (Newcastle-under-Lyme);
Colin Hancock, Director of TK International Foods, who was national chairman of the Business Computers Uzers Association (Grimsby); and Simon Coombs of British Telecom (Swindon).



ICL Stevenage. Other Labour candidates include Joe Gluza, computer officer at Cambridge University (Cambridgeshire SW); Jon Gray, systems analyst with Somerset County Council (Taunton); and British Telecom (Swindon).

"Labour would have put more into implementing the recommendations of the Alvey Report," said ICL software marketing manager Colin Bastin, who is the Labour candidate for Wycombe.

Martin Stears, the Labour candidate for Broxbourne, is also from iCL, an analyst programmer from didates include Joe Gluza, computer officer at Cambridge University (Cambridgeshire SW); Jon Gray, systems analyst with Somerset County Council (Taunton); and David Hewitt, who is in the purchasing department of IBM Havant (South Dorset).

The four Ecology Party candidates are Nigel Callaghan, Geof-

Margaret Harty.

The Scottish National Party is two candidates, Alasdair Morgan

The sole Plaid Cymru candidate who is from the computer industry is John Dickson, a systems analyst with Wales Gas (Vale of Glamor-



US maioframe giant Control Data is now the biggest single shareholder, with around 40%. has paid a heavy price for the injection of new finance. Out goes chairman John Parkinson, while founder managing director John Gow becomes marketing director. The company has put £8 million into Systime — and put in a senior marketing vice-president, Vernon Sieling, as chairman and acting managing director. Parkin-son has left Systime to he a finan-And the company has made a 'very substantial" payment to US ninicomputer supplier Digital

cial consultant. Gow is vice-chairman as well as marketing director.

The company will be looking for a new permanent managing direc-

ers bave put in £5.8 million — plus £3.4 million in oew coovertible

All the shareholders said Systime would keep independent. It will go for a Stock Exchange listing, possibly in the next six

nology Group, a shareholder since 1977, welcomed "the willingness of the private sector to meet Systime's future financial needs."

Gow said he was "very he pry" with the new Systime. "We have a lot more finance than we have ever had and our sales tituation is very huoyant," be said.

He added that the company had cleaned the state with DBC over software copyright and had a new trading agreement. "We've cleared our differences and now have a happy association with DBC." Systime did not cootest DEC's High Court action. Gow said the company wanted to settle the dispute quickly and get on with trading. Systime will oow deal with DBC in the UK rather than

Thursday, May 26, 1983 Number 861

DEC said it was pleased the dispute had been settled and looked forward to a "mutually beneficial trading relationship".

The settlement, worth "several million dollars", involved agree-ment by Systime not to infringe DEC software copyright and a promise to "strengthen the proper monitoring and reporting of soft-ware licensing".

This was DEC's second High Court victory over UK firms in two weeks. Barly this mann is won an order restraining the small systems house Darkerest from infringing its software copyright and passing itself off as a DEC OEM.



Politicians told to stop meddling — or £930m Esprit is off

hy John Riley BUROCRATS last week warned that they will withdraw the pro-posed £930 million fifth generation

research programme Barrit if Law points a model with it The European Commission is keenly aware of hold-ups and cutbacks in the current Multiancaused by inadequate provision of administrative resources, and is determined that Esprit will not

uffer for that reason. "If we do not get the requeste

same period in 1981/82.

Because of the rights issue Sir Christophor was able to show total age the project we will not take responsibility for managing the programme," said Dr Jean-Marle Cadiou, director of the BC Indebt at the company down to £59 million worldwide, compared with £180 million at the beginning of formation Technology Task Force, speaking in Brussels last September 1982.
This reduction has helped the company to show a bealthy £12,5 million post-tax profit. This was just about the middle of most ana-

Michel Carpentier, director-general of the IT Task Force, and responsible for Esprit, confirmed: "We are ready to drop the probank, said the re-appearance of growth at ICL was very welcome and he was looking for a full year about 80 co-ordinating staff when the programme is in full swing -about half the normal proportion

for BC projects.

Further details of the proposed programmes were revealed isst week. The subject areas are the same as those outlined in the draft proposal which has already been published. These include microelectronics, software technology, advanced information processing, computer integrated manufactur-

■ Continued on page 2.

Sperry gets \$12m order for airline net

Lufthansa is devoloping a worldwide communications net-work, Liftnet (Lufthansa Inte-grated Information Transport Net-work). Following a year's study to determine which system to use.

the company has placed a \$12 million order with Sperry.

This iocludes 22 Sperry DCP 40 systems, a 1100/62 multiprocessor system, and CMS 1100 softwarc.

HP in 16-bit race

HEWLETT-Packard has moved into the 16-bit husiness microcom-puter market. The US electronics and desk-top computer giant has signed a deal with Digital Research to make its CP/M-68K operating system available on the HP Series 200. And the company is prepar-ing to launch Unix, another contender for the title of standard microcomputers operating system on the same 200 range.

Bankruptcy fear

LONDON software house Oliver Budge has been struggling to avoid bankruptcy this week after its backers Technical Development Capital refused it a further injection of £150,000. Managing director Richard Oliver Budge said the firm would have to decide hy the end of the week whether it would be able to raise enough capital to carry on or to call in the receivers.

Star turned down

STAR Computers' £500,000 bid for MGE Systems has been turned down. The UK systems house wanted to take over the accounting and professional software But MGE managing director Mike Edwards said there was not a good match hetween the two firms

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ICL £22 m half-time profit

ICL has bounced hack into the black with half-year profit of £22.7

According to chairman Sir Christophor Laidlaw turnover for the period October 1, 1982 to March 30, 1983 was £401.2 million compared with £335.1m for same period in 1981/82.

The £65 million improvement was based in part on a 30% growth in deliveries of the DRS distributed product, which is now accounting for up to one-third of the

geted as the engine for growth in the remainder of the Eighties, is continuing to develop satisfactorily, and the joint development with Fulltsu on the DMI and Estrici mainframes is on time and also progressing satisfactorily.

There was no mention of the delayed Mitel-PABX in the chairman's initial aratement, but Sir.

Christophor noted that the huge project to computerise PAYE is

Outside the UK good progress has been made towards profitabil-ity in all the subsidiary companies.

The trading profit of £22.7 mil-Sir Christophor said the com- lion for the half year compared sales of pany's network product line, tar- with a loss of £13.1 million for the million.





Industry analyst Nick Mea-am, of stockbrokers Laurio Mill-

Downtime by Chad ...

Platform

Unix 5 to run on top chips

by George Black
WESTERN Electric, the manufacturing arm of American Telephone and Telegraph, bas agreed to adapt in their westers 5 source code was to be available in the first quarter of 1984.

Motorola, Intel and National Semil's 16032 family, Motorola's 68003 and Intel's 286s. Western will launch its own Bell Mac chip in competition later this year.

NatSemi's Unix campaign was advanced at the National Compniater Conference in the US this week.

Aphone in the studio adlence.

According to the BBC the programmes which made up the first quarter of 1984.

Aphone in the studio will give viewers a chance to put their computer programme and Making the Most of the work of the work of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture some of the reality of the Most of the producers are hoping to capture the area of the reality of the Most of the producers are hoping to capture there are a LA120-GA £1800

threat to sue Philips Philips Business Systems in the UK is preparing to take the com-

or pany to court over the alleged non-payment of commission and expenses totaling £8,000. And Andrew Cereseto says he could be a test case for other regio-

And Andrew Cereseto says he mid be a test case for other regional managers made redundant by the firm last year.

Cereseto was one of five regional commission on the year before the restricturing. nai managers made redundant by managers affected by a company restructuring in February 1982. He and two others were made redundant and sent home on hasic pay to sit out their six months' recent letter that the "termination recent letter tha notice. This is common practice The company knew of no legiti-mate claims, Manley said. The £400 related to the expenses

nonths he lost commission which normally made up one third of his salary. And he says the company failed to pay "standard" expenses

allowances which were written follow him into court. in his contract.

Redundant chief's | 'Japanese have put too much effort into robots'

hy Andrew Thomas
THE Japanese have gone over the top with robots, says a top UK engineer. Professor Willed Head of the control of the control

its micro show

THE BBC intends to show in Its

next programme in the Computer Literacy Project that "the reality

ganbotham, director-general of PERA, the Production Engineering Research Association, was "The Japanese nave overdone it," said Heginbotham. "They're putting too much effort ioto robots

branch of the British Computer Society at the end of April. He said "the whole thing was a disaster."

Most of the programme makers spent a great deal of time trying to

speaking at the opening of the robot demonstration, training and development central last week.

"The Japanese nave overdone it," said Heginbotham. "They're putting too much effort ioto robots

which can cope with very high de. And Heginbotham also stated any other than the property of the control of the recognition systems, "If you're not neering. They've got robots doing in bumanoid concepts. The future last which could just as easily be handled by 20 diodes."

BBC goes live with Diablo olivetti Hazeitine tra alvis 📆 📆 CENTRONICS 🎚 Diablo alivetti Hazeltine 1155 ALVIS CENTRONICS **DEC® TERMINALS**

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of working with complete and software is that many things can and do go wrong."

The demonstration will take place on October 2, when a live special iasting 115 minutes will be screened on BBCi. The prospecial will include John Cole of Acorn, Richard Fothergill of the Microelectronics and Education Microelectronics and Education senter of Making of the Most of the Micro, who will be joined by a panel of experts, micro users and a VT131 £1175

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PARALIYME of Florida last week admitted that it had used a nicekup of a data encryptor in winning an \$84 million social security ad romistration contract.
The Securities and Exchange

Commission (SEC) had sued Paradyne, charging that the com-pany passed off the mock-up as the real thing in a preliminary demon-stration to social security officials.

Paradyne president and board chairman Robert Wiggins made the admission in a carefully worded letter to stockholders is-stied last week. Until that letter, the company had steadfastly de-nied the SEC allegation.

Politicians warned off

From front page.

ind optimistic about the success of the main Esprit programmie, as it is to be industry driven, and the 12 top European companies have al-ready been collaborating in the forniulation of the programme over the past two years.

Cadiou was anxious to point out that the Esprit programme is not n protectionist measure. "Esprit is not a declaration of war against Japan or America", he said, "it is not a programme against but o programme for. The EC has nothing gainst transcontinental co-operation providing Europe is not just a link in the chain and can take part in the strategy," (But Alvey direc-tor Brian Oakley calls it war. See

link in the chain and can take part in the strategy." (But Alvey director Brian Oakley calls it war. See story page 3).

The programme now goes through a nail-hiting phase. The proposal has to be approved by the Council of Ministers after taking Parliament's and the Economic and Social Committee's opinions into account. It is hoped that the decision will be made in late October, in time for its budget to be approved in December.

Stamford, Connecticut.

Worldwide local network sales were worth \$127 million last year, according to BCC's latest report.*

Emerging Local Area Network Business. This year the figure should double and by 1990 it should grow six-fold.

In the US, the growth is being fuelled by the fact that peripheral equipment and applications soft to eight per cent in 1986 and 17% by 1990.

Specialist LAN companies such so Ungermann-Bass and Network Systems currently had two thirds of the market value, but this share would go down although the

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RETRO-GRAPHICS



FEIGINBAUM . . . "US firms pars up opportunities through an emphasis

Fifth generation project threatens US dominance

Fast profits won' 'We are at war'—beat the Japanes Alvey director

dominance of the computer indus-try surfaced et last week's National heim. Unless the US quickly makes long term plans to focus its computer development scrivities, it will lose out to the Japanese and uropean consortia working on ifth generation computers.

Generation Computer Techinology, ICOT, has a 10-year budget of around \$855 million. "It's
isignificant but not scary," added
Feignbaum, noting that IBM's annual R&D budget exceeds this. US firms pass up opportunities for future technological developments through too great an emphasis on short-term profits. nations and coalitions of nations have perceived that the US approach to computing has not been IBM and other large computer companies do not share the results very appropriate in terms of exploiting opportunities that have developed here," said David Brandln of US-based SRI International. of research, leaving many techno-logical developmenta to go unused, said Edward Feigenbaum, of Staa-

by Robert Parry
US FEARS that Japan's fifth generation project will cut American

The amount of money the US fifth generation conference session has been sinking into advance computer R&D work is not the threat — which far outweights dominance of the computer industry surfaced of last week's National Computer Conference in Anabetim. Unless the US quickly

Generation Computer Tech

Which is desired within a from Europe — the graph of the computer of the sticking point - according to artiticipate should be forced into it. A start has been made on inde

try co-operation through it Microelectronic and Compute Technology Corporation (MCI set in motion by Control Day William Norris and bringing gether 12 high technology con panies in a R&D consortium. has picked on a site - Ausia Texas - and should have a but management force working under its president Bobby Inman b

The feeling that came out of this

'US will buy 85% of LANs'

MORE than 85% of the sales of local area networks will be in the US, according to US industry analysta Business Communications of Communic

number of networks they installed would rise in relation to their com-

Companies whose products sup-ported data processing applica-tions and video transmission. In the future it would come addi-tionally from computer companies such as IBM and Hewlett-Packard end telecommunications com-

panies such as American Bell.

The most rapid technological advances had been made by comadvances had been made by companies making Ethernet-compatible networks, the report says.

* Emerging Local Area Network Basinass.
Report number G-074, 150 pages. \$1,250.
BCC, PO Box 2070C, 9 Visduet Road, Samford, Connecticus, USA.

Union row over Irish

Tom MacSweeney
PLANS by the irish Department
of Health to computerise Irish bospitals bave been hit by union objections.

The Local Government and

The Department has been strongly criticised for its handling of the situation, having announced that it had asked the Dublin-based American company, McAuto Ireland, to set up two pilot schemes—one at St James's Hospital in Dublin, the other at the Mater. Dublin, the other at the Mater,

Following this announcement, the Department was accused of making its decision without proper consultation and without compar-ing the McAuto systems with those another competing company.

McAuto was set up evidently in

anticipation of getting the busi-ness, but has never before installed amputer systems in Ireland.

The other competitor for the its own Irisb products.

hospital computers

Department and alleged that in some cases is was misled.

At the weekend the Department

announced that the pilot project for St James's Hospital had been

temporarily halted.

There is also confusion about the type of equipment to be used. A Department of Heelth A Department of Heelth spokesman claimed that SMS had suggested using the same equipment as McAuto intended to use, but SMS evidently claims that it was asked to quote for American software, but would prefer to use

'Esprit offers greater support than Alvey'

SMALL companies can get greater search themselves than get only support from the Common Mar-half of the work paid for by the ket's Esprit scheme than under the UK's own Alvey programme, It was revealed this week.
Some smaller, high-risk enter-

prises could get more than the 50% official backing offered by the British government. And universities which cannot get support from industry but have submitted outstanding proposals could see a standing proposals could even get 100% grants from the EEC.

Alvey programme administrators Alvey programme administrators have been worried that the government's decision to limit its underwriting to 50% — Alvey himself recommended grants of up to 90% in deserving cases — would be too low to be effective. The fear was that many smaller but highly innovarive companies, especially in the software engineering field, would be cut out of the project.

government and then be obliged to share their results with other team

substantial number of the proposals sent in by 620 organisations had coroe from smaller companies.

Dr Jean-Marie Cadiou, director
of the Commission's Information Technology Task Force affirmed that there is communication be-

tween the national programmed and Raprit. "A number of people on the Esprit panels were also us the Alvey Committee", be said us, the national authorities and le dustrial participants, and must be on a project to project basis to avoid duplication, or at least to explain the rationale behind any

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ess Press International Ltd. 1963.

Programme, Brian Oakley, set the scene for UK initistives on fifth Oak generation computers with talk of an economic war.

"I believe we are engaged in war - an economic war more impor-tant than that affair in the South

Atlantic."

Oakley, who was speaking at the SPL-Insight insugural dinner in London last week, added: "The UK cannot get involved in trifling affairs while the enemy is walking across the parade ground."

SPL-Iosight is a study group set up by SPL to look at knowledge.

up by SPL to look at knowledge-based systems and the user in-

Oakley, who is commending widespread support from industry, academia, and government in his role as frontman for the Alvey Programme, warned his sudience that the UK must not fritter away its excellence while "industry fights

uniprocessor in the 3081 series, are

all 32-bit processors.

a mainframe gap

by Kevin Cahill
DESPITE gloom among forecssters about the future of non-IBM compatible maintenances, NCR has staked its claim to make the compatible maintenances, NCR has

staked its claim to a pisce in the sun with seven new models for the configured into five separate

V8600 series.

The new machines, which plug a competitive gap ranging from the IBM 4341 model 11 to the 3083

models, to give the seven products NCR is advertising, and entry level prices in the US are about \$500,000 for the V8635 and just

The announcement was made st cooled and are based on emitte the National Computer Confer- coupled logic semiconductor tech

ence in the US.

The offering is a single processor, the V8635, and a tightly coupled disdie processor the V3645. Together they are the building blocks for a configuration of toosely coupled processors running under NCR's proprietary coupled logic semiconductor technology. Separate microprocessors drive part of the I/O system, giving drive pa

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ment of Industry. He ssys he will quickly form a small, four-man directorate 'lacking in bureaucraey", which he promises will be "fast acting" and open to advice at all times.

Oakley's determination to suc-ceed is obvious, but he admitted that the job really requires "someone who can walk on water."

"I csn swim," he said, and sdded that, whatever Number 10's attitude is towards government in-tervention, the people in Whitehall had every intention of making Alvey work. This no-nonseuse approach has

under \$800,000 for the V8645.

been welcomed by industry excellence while "industry fights leaders, and Oakley emphasised with industry and government depart-

Oakley gives up his post ss secretary of the Science and Engineering Research Council on June 2 to take up an under-secretary level appointment at the Department of Industry. He says he will

The Jspanese fifth-generation programme is a marketing exercise as much as snything, geared to what Japan is best at, he said. He suggested the UK should consider a different emphasis that esters to UK strengths, psrticularly in com-

The five-year, £350 million Alvey Prigramme is charged with establishing collaborative research in software engineering, very Isrge acole integration, man machine in-terface, and intelligent knowledge based systems. The government's with the rest to come from indus-



OAKLEY . . . "I believe we are engaged in war."

Upgrading problems halt Stockholm share deals

by John Kavanagh

STOCKHOLM stock exchange has elosed for eight days in the last four weeks because the share registration computer system could no

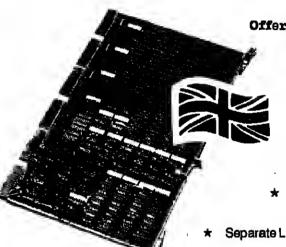
The registration company, VPC, runs two ICL 2966 main-frames and has been changing to the 2900 series operating system. VME, from ICL's DME system, hich allows programs from its old 1900 series to run on 2900s.

Changes in tax relief rules affecting share trading has led to a rapid growth in business over the ast two years and VPC had to bring forward its conversion plan by a year.

"We had to move too quickly to VME," said computer manager Bengd Adamsun. "We did not liave time in test complete suites of

fo enable VPC to catch up, the stock exchange had to close for a whole week in early May and on other days trading was restricted to two or three hours.

NCR tries to plug | DEC COMPATIBLE MEMORY



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Alvey plans are a 'waste of money'

by John Riley SOFTWARE guru James Martin slammed the Alvey programme last week, claiming that it intends to waste taxpayers' money to de-velop a product that stready exists. Martin is chairman of interna-tional consultants DMW, which

markets Use-it. This is a facility that designs mathematically correct systems and generates buglice code to run them, and is considered by Martin to be as revolutionary to software development as the transistor was to hardware de-

Use it, which may eventually make programmers absolute, according to Martin, has stimulated serious interest by top computer manufacturers. According to 1)MW, ICL suprenio Robb Wilmut is convinced enough in Its potential to evaluate it - even though he will have to buy two

puters to run it.

DMW is well respected and inf-

luential within the industry - the company persuaded Texas Instruments not to scrap its personal computer plans, and also produced a 10 years forward look for ICL

last sutumn.
"There is no mention of faurth generation languages in the Alvey Report', complained Martin, "and they have never heard of Use-it. I would be willing to demonstrate it to the committee so that they don't have to spend \$100 million of taxpayers' money trying

sis of modern camputing and started rebuilding constructs that can be mathematically proved. They split away from the Apollo programme and farmed HOS, a small Boston-based research com-

Use-it provides graphic tools for top dnwn systems design, analyses all the parta of the requirements definition for logical correctness, and then produces bug free source

code.
The future looks bleak for programmers, although Martin still sees Cobol in use until the end of However, prothe century. However, pro-grammers will have to learn to use willo saw the need for a bug-free code generator when working with the Apollo space programme in the 1960s. They ignored von Neumann constructs which are the ba-



MARTIN . . . No mentian of fourth generation languages.

Bureau's profits up to £321,000

by Nuala Moran
THE City of London DEC
bureau, Rolfe and Nolan, which
specialises in supplying computing
services to futures and commodity
brokers, has announced profits before tax of £321,000, for the year to February 1983. This is up from £300, 10 in 1982, an increase of 7%. Turnover increased 34% from £1.355 million in 1982 to £1.821

million.

The company provides computer services to commodity brokers, who act as middlemen between producers and manufacturers, producers and manufacturers, buying and selling such goods as agricultural produce, metals or foreign currencies. It has developed special accounting programs for this purpose. Presently brokers buy bureau time from Rolfe and Nnian to run these from Rolfe and Nnian to run these applications, but there are plans to sell the programs for use on the

At the moment Rolfe and Nolan

I wo more micros arrive from Japan

by Andrew Thomes
THE trickle of Japanese micros on
to the European market is showing
signs of becoming a flood. Following last week's news that Fujitsu will be bringing eight and 16two other companies are moving nto the domestic market.

into the domestic market.

The first product of the collaboration between Fujitsu and Matsushita comes in the shape of the Duet 16, an 8086-based micro and launched by booming systems house Lambart. The Duet is produced by Panafacom, a come any jointly owned by Tujtau and Matsushita, and features up to 512K of RAM and 32 Mbytes of backing RAM and 32 Mbytes of backing

part due to an increase in the number of clients but also because there was a boost in activity in the And going for the lucrative home market is the first low-end product from Sord, which has up commodity markets. And new markets are being set up. "Eight or nine years ago you were just talking about accounting till now concentrated on business systems. The M5 is aimed squarely for contracts of cocoa, tin etc. Now at the Sinclair and Texas the community and futures mar-kets are dealing with currencies, American stock indices, and in-terest rates," said Rolfe. machines, and comprehensively outperforms its competition, and not a few more expensive machines, in the area of graphics.

machine. A Z80A is used as the main processor, and comes with 4K of RAM. But the machine's graphics excellence stems from the use of a TMS9918A 16-bit chip, with 16K of RAM. This releases the whole of the 4K RAM area for use by the main processor, giving a main store capacity at least equivalent to that of machines with

145. Camputer Games, says that a 3½ inch disc drive will be avail-able later this year, offering 100 Kbytes for £100. The Sord machine offering of a Katakana character set, a feature not found on too many micros on the UK market.

UK by Lambart Microcomputers, headed by Michael Marks, who as MD of Ingersoll was responsible for the launch of Atari micros

trying," he says.
"We reckon on selling at lesst

apparently larger store sizes.

And UK distributor for the ELECTRICAL wholesaler Britis

The Duet 16 is handled in the

Systems, a keen advocate of stan-dards who based his company's

Council monitor

Victory contracts

a computer consultant, could face
up to five years in prison and a
\$10,000 fine for the charges of
conspiring to transport stolen
secrets.
However, this latest action will
not necessarily and the so-called
formulated guilty earlier, this year,
need a guilty earlier, this year,
negot lations' between the LS
finetice Denartment and the Ispa.

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and transcripts of the tages made
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The tages are said to show that
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FBI totally, in addition, the tages

Yoshida's trial was scheduled to
tory Computer Systems by
emperor.

The tages reveal that the Ispa
mese believed that when IBM introduced new technology, its
of California is suitable
this lead time that lead time that lead time that the ispa
this lead time that its lead time that its

SALES BRIEF THE TICER FROM HIH Honeywell for the RAF

A NETWORK of Honeywell DPS6 minicomputers is being installed by the RAF to count supplies. The order is for five machines, but could be expanded. to become one of the biggest DPSs orders the factory at Newhouse, Scotland, has handled. The machines will be installed at RAF stations throughout the UK. The network is believed to re-

network

place a system based on two ancient ICL System 4 mainframe supporting hundreds of terminals,

£3 million deal

MINI-MAKER Gould has signed a ten-year agreement with in-formation services company Geisco worth \$3 million in the first use Gould's Concept 32/27 computers in its worldwide teleprocessing

Foreign parts

INSTRUMENTAL Rentals, the UK hire firm specialising in per-pherals and small micros, has placed two orders with foreign-owned companies. The largest worth £250,000, went to Hewlett-Packard for desk-top computer.
The other is for £50,000 worth of printers from Mannesmann Tally.

Union choice

A SMALL Surrey software house has picked up a £50,000 control from the Association of Scientific Technical and Managerial Staff; for a new membership system at run on an ICL ME29. TLR Solware was chosen for the contract because it has already supplied membership systems for five other

Network upgrade

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and flexibility, the TIGER is ideal also for the large corporate user.

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one person office, small to medium size business operations, and with its versatility

Look at the TIGER specification. Impressive? Yes! But, all these fea-

tures count for nothing unless you have reliable software, good docu-

mentation and the right level of professional support. TIGERBYTE soft-ware includes Peachtree – one of the world's biggest and most experi-

enced software specialists. In addition to these basic accounting and office productivity programs, TIGERBYTE® provides proven communications and graphics software. With excellent documentation and

nationwide service back-up, HH provide the dealer with total product

The TIGER was designed with the user in mind. Apart from its obvious aesthetically pleasing appearance and ex-

HH® is a registered trade mark *Price includes hardware and systems software only (excl. VAT)

cellentuse of ergonomics, the TIGER performs. The price and

Distributing Company has ordered two minicomputer systems from UK maker of fault teleprost hardware Computer Technology. The company, which stready has twn CTL computers, is upgrading ita real time sales order processing network, and plans eventually to implement CIL'a Momentum option which provides full reallient transaction processing.

\$8 million drives

KENNEDY, the US maker of magnetic storage media, has wo two big orders worth a total of \$6.5 million for cartridge motor drive and disc drives. Data Systems De-sign has ordered 4,000 Model 660 cartridge transports worth \$5 mil-lion for a Winchester store. system, and D. H. Minicom has lodged an order worth \$1.5 million for the cartridge transports, and the Series 7300 Winchester des

rey County Council will be mos tored by computer after delivery a £73,000 system from ABS Computers of Woking, Surrey, Basel on an ABS MX10 mini, with the LADS software developed to similar application for the Great London Council, the package keep a history of recent repartitions carried out, and enable the commit to estimate expenditure for next five years.

performance meets the needs of the smaller business but, because of its built-in modem, with the capability of access to Prestel, the TIGER is a powerful communications tool Comprehensive interfacing ports mean TIGER can support advanced data communications to other terminals, minicomputers, and large corporate mainfrances. With outstanding colour graphics, the TIGER is a compelling selling proposition.

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were partly offset by an increase in commodity business. This was in Smart, Low Cost and Compatible

● Compatible with most ANSI prolocol terminals including DEC-VT 52, Lear Slegter ADM-3A, Hazellino 1500 and has many leaturee of DEC-

 Detechable keyboard tlitable monllor (two positions), printer pofi and expansion sockets for 32K RAM or ROM. Keyboard controlled parameter driven configuration facility.

Powerful editing capability graphics and built-in diagnostics



ROLFE ... Boost in activity in the commodity markets.

managing director, explained that it was the cost of this that had held back profits. "The programs are being redeveloped to incorporate some additional features and update them so that they will run on a Digital Equipment Vax," he said. The programs previously ran on a

The costs of this investment

Users 'unaware' of standards issue

by Donald Kennett
USERS are planning their systems
purchases on a short-term basis,
unaware of the implications of
Open Systems Interconnection
standards, according to a study
standards, according to a study
carried out for the Department of
Industry.

Presenting the results of the
study last week, project manager
study last week, project manager
leading Systems and: "We take

communications strategy on their use, said that he found it hard to keep up with the technical details. Users who are barely aware of the implications of standards are presumably going to find it unre-

Jerrold Donington of Langton in subject or OSI standards to the formation Systems said: "We take the view that organisations showed a lower level of awareness of OSI than was desirable."

subject or OSI standards to the warding as well as difficult.

Donington said that a major benefit from the study had been constant plea for more user than the exercise of expressing OSI than was desirable."

The property and desirable the exercise of expressing OSI standards do the study had been the exercise of expressing OSI standards do the study had been to subject or OSI standards to the said that a major benefit from the study had been than was desirable." than was desirable.

In conducting the study, which began last September, Langton inthe Dol's efforts to set up an IT standards destandards concepts in terms that were meaningful to a wide range of users.

ast Japscam man faces sentence hy Howard Karten
ATTER pleading no contest, the
last defendant in the Hitachi-IBM
case is to be sentenced in midJune. American Thomas Yoshida,
a computer consultant, could face nese povernment regarding are said to be quite full of irreversal for the said to be quite full of irreversal for the said to be quite full of irreversal for the said to be quite full of irreversal for the said to be quite full of irreversal for the said to be quite full of irreversal for the said to be quite full of irreversal for the said to be quite full of irreversal full of irreversal

Yoshida's "nolo" plea came on May 13, only a few days before Yoshida's trial was scheduled to start. At that hearing, Federal Judge Spencer Williams unsealed 13 hours of video and audio tages

undercover operatives repeatedly referring to Isso Ohnishi, a top Hitschi official, as "Izzy," and good-naturedly disrespect-ful requests to "say hello to the emperor."

The tapes reveal that the Japa-nese believed that when IBM in-

US MAKER of 16-bit micros Vi

NCR Unix

on the way

entry is

NCC carries all micros before it

Robert Parry reports from the National Computer Conference

IT's big, it's brash and it's blazing but 130,000 people can't all be wrong. For most in the computer husiness, companies and individuals alike, the US National

But unlike the unreal world of Disney's creation, the unreal world of the NCC list lew clear themes. Companies offering portable interocomputers smod hard by mainfrance manufacturers and suftware suppliers scross the oisle from those with high performance Winchesters or communications

At best it was tiresound, at worst

overwhelming.

And, with a handful of exceptions of the second of the se tions, the NCC is no longer a place for major product announcements. These get lost in the morass of first showings of previously announced products and a rash of me-too introductions, or if from start-up companies get lust in some out of the way corner. The booths at the ahow are allocated nn a points system, so those that have amassed brownie points by showing here before get the choice spots.

The security blanket comforting

this cosy computer club had a couple of discernible threads. If you still needed to be convinced thot micros were moving portable, IBM-warda and linking into networks, this was the place to be. If you doubted the future for smaller hard and floppy discs, the plethom of half-height drives and smattering of three-and-a-bit-inch units should have settled your mind.

It was not a show to see a recipile.

It was not a show to see mainframes, despite the brace of mojor announcements from IBM and NCR, nor was there much in the way of software, except for a handful of mainframe-to-micro

Japon stole the scene with newomers to the portable micro market. Sharp's new baby, the PC5000, left no doubt as to its portability - 11 pounds in weight and battery operated, with an

ottracting admiring crowds.

ottracting admiring crowds.

Toshiba brought in a "portshle"
version of its "100 microcomputer, a repackaging jub on the established desk-top machine.
With its elip-on LCD, the same basic tanit is cosseted in foam inside a briefease, with an ecoustic compler but no printer or discs. In

NOT all the new mnebines were micros. Gnuld SEL bad three new systems stretching from a desk-top micro to a virtual memory minl, the Powerstation series, and for those fed up with 8, 16 or 32 bits, Symbolics had n 36-bit tagged architecture Liapbased computer almed at a symbolic processing in califold. aymbolic processing in artificial intelligence applications. And intelligence out with unhencements to its System 2000 database processors, while graphics apeclalist Megatek showed a high resolution monuchrome version of its Whizzard workstation.

pocket size almost. The Canon X07 comes in a unit the size of a
paperback, with a four-line liquid
cryatal display and is Z80 driven.
Memory can be expanded from 8 K
to Z4K of RAM through memory
carda — credit card like packages
carrying battery backed CMOS
RAM chips. It drew a iot of interest at the show, despite the terest at the show, despite the meiting heat in the tent area and the lack of English language docu-

There were new US portables. Columbia's IBM PC look-ailke appeared in a transportable guise—the Columbia VP, one up on latest from the founder of the geure Os-

eight-line liquid crystal displsy and bubble memory cartnidges for mass storage.

that the keyboard hinged up to cover the drives and the medium-sized screen and the box had a

rong. For most in the computer mass storage.

11 will come in the autumn, with optional printer and autodial modern — "all a person needs in a mobile office," claimed US national sales manager Ray strong 320,000 square feet of convention halls, tents and hotels within halling distance of Disney-land.

At times the confunction was apten on ough, with the Magic Morrowland seeming lit descriptions of what was going on at the NCC. — not to mention the cow-

Fujitsu was also aiming high with its 8/16-bit Micro 16 Personal

side a briefease, with an ecoustic compler but no printer or discs. In all rather in the mould of the Sord M23 portable.

The third new Japanese takeaway computer was the smallest—

The third new Japanese takeaway computer was the smallest—

Ascanwhile Mitsubishi spread it wider, with a distributed system it calls DRS816. Up to eight 16-bitters built sround 8086 chips can be linked via MP/Net and an "enhanced" MP/M-86.

Networking featured heavily in

Ne tworking featured heavily in ulferings from two US companies.
Wang brought in a Local Intercon-

Wang brought in a Local Interconnect Option to allow clustering of its Professional Computers through a high speed local area network with file and resource sharing, while Altos added Ethernet to its 586 family.

This will come in June as a plugin communications board carrying Intel's i6-bit 80186 processor and Ethernet chip set. As well as Rithernet, X.25 capability will be added, plus faster running of 2780, 3780 and 3270 emulation software and an increase from five to nine and an increase from five to nine users. Altos's own in-house LAN Altos-Net, presently an implementation of 3Com's U-Net, will appear in an enhanced second generation in the summer.

"With all these networking and communications facilities, the 586 communications facilities, the 586 y offers a powerful but affordable solution for smaller and mid-sized businesses, as well as Fortune 1000 companies," says Altos president David Jackson. He reckons Altos to be the foremost shipper of Xenix systems now. (Xenix is the Microsoft implementation of Bell Labs Unix operating system.) Labs Unix operating system.)

Altos is now shipping so many systems across its range, most of them multi-user, that it has borne, which was showing its Executive machine. But the Columbia VP was portable only io THE BIGGEST STAR IN PERSONAL COMPUTERS IS THE SMALLEST



The NCC took place this year in the shadow of Disneyland . . . and provided its own Fontosyland and Tomorrowland.

than seiling TeleVideo terminals with Altos' own processor boxes.

All dis emphasis os physically smaller machines, though not necessarily less powerful ones, was reflected in the mass storage devices that abounded. Half-height drives — with both hard and floppy discs — were round every corner, as were ever-greater care-

Winchester front was undoubtedly by the Control Data's Cricket 3½-inch drive carrying 5 Mbytes of formatted data. It uses pixted media and thin film heads, and like the

Rodime unit launched two mooths ago fits into the paim of your hand. It should be available for evaluation in July, and in production by the end of the year.

By this time next year it is ex-pected to have grown to four times its capacity, by using both sides of twin platters, rather then the single sided single platter of this early unit rushed out to be at the NCC booth. Paradoxically, Healey and to hove picked up more a European leads than at as exhibition this side of the

Other masufacturers are getting near to bringing out units with this hear to oringing out units with this form factor — popularised by the booming microfloppy drives in all their variety — and Tandon was showing to select customera. Seagate and Miniscribe are also close on the victing.

UK firm System/36 in UK put on System/36 in UK a brave show — but not all of it

John McNuity.

16-hit micro architecture na

under the Office and Bledge

Machines Orion label.
"We didn't pull in thempeopic just after leaflen," technical director Martin list.

probably because those was

flown over were the top mine and directors. Thern EMI,

booth round the corner from

found onuch the same sort of the

France and Germany as well al

with good leads from Scandi

US for its streaming tape prof

THE British showing my small chough to be and gettier if you were no gettier if you were no Micro Focus got round in the UK — or having two booth: through its US branch other nestling among the other nestling among the state of the gap between the System/38, has faciliother nestling among the of British companies alique on the Business Equipment Association joint stand. bridge the gap between the System/34 and System/38, has facilities which are not yet available

Things went well, at marketing manager Peter as he took time off finals strating the company he Cohol running on the Rit Hoving the two sites mapped colour display. UK users have to make do with the alphanuseparated - one was in the tioned history in the metic Model 1. British PC owners metic Model 1. British PC owners tioned in the mise tion holl while the other mise will have to wait for the chaoce to use their micros as terminals to the use their micros as terminals to the in the tents - meant he saystem/36, whereas their Ameri-good chance of at least ben can cousins can buy the occessary can cousins can buy the occessary adaptor and cmulation software ticed by many of the puster.
Being noticed by all the h

gatherers was not south Future Technology Spa in the two announcements. In the wanted, even though in the two announcements and large us, intermediate and large iarger then expected standing the absence of exhibition stan systems product marketing director Bill McCahan announced that The cumpany was pushed OEM uperation, built mone the System/34 was to be phased

duction from today," he said. But an IBM spokesman in the

of the System/36 range,

sold in the US as having more sp-plication programs than any other small IBM system to date, and offer 128K to 512K nf main store and disc storage of up to 400 Mbytes. Up to 30 local and 64 remote terminals can be sup-ported, and remote fault diagnosis

is available for the first time. System software comes in the form of the System Support Program (SSP) which is heavily menu-driven. System/36 mschines for Europe will be built at Santa Palomba in Italy, and are due for first shipmenta in July (US) and September (UK).

as fast at the same price.

Systems Division) chunk of 1BM into the future, and avoids the big jump from System/34 to Sys-

"It's good news for gressively priced."

banking package to System/36.
"They couldn't give us a

machine to do the conversion said Priesdey, "so we gave then the code and they did it for us in two days. I'm sure it wsan't jus

But IBM refused to soy if it in-tended to help all users in this way First impressions of the system/36 are isvourable. John Pricaticy, marketing manager of Hoskyns' banking division, is kyns' banking division, is kins announced a deal for the first One user keen to get its hands on a System/36 is Wilkins Compu-

ICL 'mole' keeps an eye on US

by John Kavanagh ICL has a top-level "mole" at one of the homes of US computing research. Michael Scott Morton, a professor at Massachusetts Institute of Technology, has joined the ICL board as the seventh non-

"I will be providing a pair of eyes and ears on US research, es-pecially in universities," Scott Morton said. "I will be coming to the monthly board meetings and I shall play an active role. ICL feels I am well placed here to help

Scott Morton, 45, is professor of management at Sloao School of Management at the Institute. He specialises in the problems of developing systems to help manage-ment make decisions. He is now engaged on major research into the impact of information technology on management in the Ninetles.

He also works oo co-ordinating corporate planning and contro systems with management in formation systems.

He won his doctorate at the prestige Harvard University 1965 - with funding from IBM. ing director Robb Wilmot invited him on the board after reading his

book on decisioo support systems.

not going to succeed.

Scott Morton is already a director of a US software firm, Index Systems, corporate planning coosultancy Strategic Planning Assoclates and the diversified Emhat group, which makes do-it-yoursel products such as Bostik.



Intel picks small UK software house to market Ada compiler

by George Black
INTEL'S Ada compiler for its 432
chip set is being marketed in the
UK by High Integrity Systems,
the 11-strong Hertfordshire software house — and two other Ada
compilers will be introduced by
Intel in the next 12 months.

Those under development will
produce target code for Intel's I86
and 286 chips and all three are to
be put through validation teats by

be put through validation teats by the US Defence Department's Ada Joint Program Office. So far no Ada compiler has officially matched up to the American National Standards Institute

(Ansi) standard, although Rolm has said that its version is the first to meet the specification.

But High Integrity's managing director Daphne Gordon claimed Intel's compiler was the closest yet to a full implementation of the standard, achieving more than 95% of the requirements.

The 432 chip set, one of the first true 32-bit systems on the market, is said to have a good architectural

organisations.
"I think too much stress has experienced systems pro-

tool," she commented. "I would estimate that defence might account for 30% of the eventual market, but another 30% will be taken up by other real time systems and maybe 40% by new

Many of the inquiries were re-lated to engineering, robnties, process control and CAD/CAM

enterprisea.

"There are going to be quite a few Ada compiders available and their potential users are very sophisticated people who won't be hoodwinked," she said.

by Andrew Thomas NCR's entry to the Unix market is coming to the UK. The Tower 1632, launched in the US last November is scheduled for volume deliveries in the outumn, and trials are already underway in the North of England which could lead to an nrder for 300 systems.
The Motorola 68000-based Tower gets its name from its vertical housing which contains the processor, floppy disc drive and Winchester. Additional disc store is haused in a second cabiner which stands alongside the proces-

> Up to 16 screens can be sup ported, although product manager John Olford says that the system is aimed at the four to eight screen

And the decision to go for Unix was on easy one, says Olford. "Unix is the most powerful and versatile operating system ovad-able today, and its the industry standard for computer science departments. There's a terrific pool

of expertise on the wsy."
One of the en ucisms often levelled at Unix is its user unfriendliness. ''It's true that Unix was

originally developed by Bell Labs for its own use by computer experts," says Olford. "But it's easy to write a new shell for the system ystem. "We've taken Uuix further than

Bell - introducing five menu per-sonalities. We allow five different

And Olford points to NCR's hosting the inaugural meeting of the European Unix user group as proof of the company's commit-

ment to the operating system. A typical entry-level Tower configuration, with 512K of main store, one Mbyte floppy discs, 30Mbyte Winchester, one terminal and the operating system has a price tag of around £12,000. A maximum system with two Mbytes of mainstore and 232 Mbytes of backing store plus streaming tspe and printer will cost the best part of £50,000.

Altergo £2m Saudia contract goes to Cord

by Georga Black
THE iast remaining element in the
collapsed Altergo empire was
disposed of when Cord Designs
took charge of the £2 million Saudia airline contract for a flight inormation system.

Managing director of the Staines systems house Gerald Penney said about one-third of the work had already been done by Altergo and the project was now scheduled for completion by mid-1984. Of the 22 systems staff who previously worked on the Saudia system with Altergo Ireland, all but one are now with Cord. "I've nothing but praise for the

way they stuck together and kept



Saudia airline flight information work for Cord.

their nerve while the receivers sorted things out," said Penney.
He is now looking for replacements for three of the top Altergo Ireland managers, David Joice, Stephen North and Philip Devon-

share in Altergo Ireland, the re-maining 40% still being in the hands of ex-Altergo directors. "Of course we are interested in taking a greater controlling in-terest in the firm but we don't

port, who resigned want to go at it like a bull in a
Last month Cord took a 60% china shop," said Penney.

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Weighing in at only 20lbs the Hyperion sits on the smallest desk. Yet it offers 256kb vides a clear, crisp display on a seven inch screen. And though IBM-pc compatible it's cheaper - and has a RAM disk, which the

IBM-pe hasn't. For more information fill in HYPETKAI the world's most powerful portable computer GULFSTREAM TECHNOLOGY LIMITED Unit 3A, Tunnel Estate, 726 London Road. West Thurrock, Grays, Essex RML6 1LS. Telaphona: 04026 4926 ease send me toil colour prochate of the Hyperion Portable Computer

SOPTWARE made it at last at this year's National Computer Conference in Anaheim. The keynote address at this tenth NCC came from MSA's John Imlay—the first time a representative of the software and services lockners. The first time a representative of the software and services lockners. The first time a representative of the software and services lockners. The first time a representative of the software and services lockners. The first time a representative of the software and services lockners. The first time a representative of the software and services lockners. The first time a representative of the software and services lockners. The first time a representative of the software and services lockners. The first time a representative of the software and services lockners. The first time a representative of the software and services lockners. The first time a representative of the software and services lockners have a representative of the software and services lockners. The first time a representative of the software and services lockners have been software and services lockners. The first time a representative of the software and services lockners have been software and services lockners. The first time a representative of the software and services lockners have been software and services lockners. The first time a representative of the software and services lockners have been software and services lockners. The first time a representative of the software and services lockners have been software and services lockners have been software and services lockners. The first time a representative of the software and services lockners have been software

software and services iodustry has been picked for this honour.

In his hour-long performance; packed with slides, filins; a sateilite link to Washington, a concert violinist and above all lokes from

Maxell -Datalife

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The micro's role is that of personal computer, intelligent terminal and dedicated word processor. The terminal who work will be known as the workstation computer whose value will be the software, and the mainmodity. Central computers will be data sources—nine-tenths of the computing will be done at the workstation area. But if the US is to combat the trought intensive Japanese if this computer and communications methods. I make a mational

coming generation should not be forgotten. The young need seem to computers, and their education need to be educated. "We mill find the gifted children, who said chip and play it like a violin."

And it was with violin playing a rendering of "The Impossible Dream" overlaying Imay the showman waiting poetical—the brought the audience to its feet his appland his parting shot. The surgival of our industry is you, and the touch of a masser's blind. the touch of a master's hand.

Over the top it might seem to jet lagged cypies but it was a marterly performance, and the 2,000 delegates who made it imposs half-built hotels and parking of in the morning California smaller loved it.

takes aim at Europe

RIDGIVAY . . . "We want to move rapidly."

by Nuala Moran
NETWORK Technology is aiming at Europe with its digital networking and ioterfacing products.
The company is to establish distributors and OEMs in Europe in the marketing of its 3703 SNA network integrator. This is designed to concentrate clusters of ASCII and bleunchronous devices over a strongly—that is, networking "

and bisynchronous devices over a single line to an IBM or compatible host via a 3705 communications processor.

In charge of the NTL expansion will be Mark Ridgway who was recently appointed European operations manager. Ridgway indicates the industry will develop strongly – that is, networking."

Commenting on NTL's proposed expansion, Ridgway said: "The distribution system will be set up in Europe in the next six to nine months. We want to move rapidly as we recognise that there is a great deal of interest among IBM users."

OSTAPA

Don't re-invent the whee THE DEAL Systems THE DEAL Systems * applications packages for all PDP and VAX range computers

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G My name is:

Reasa send mel delatis on how I can become a Hyperion Portable Compiler Dealer

IMLAY ... "The software is where the value and dollars lie". Software – where the dollars are

America needs a national informa-tion policy.

"People are thinking soft," said Imlay. "There is a move to workstation computers with connection to mainframes — and that connection is software to soft-the dollars and the value lie.

The micro's role is the

board level, not hidden away in the back office, Imlay added. He called for a federal agency to be sup up to speak on information issue. The importance of educating

Finance men put £400,000 on Pam

by George Black VENTURE capital of £400,000 -

probably the most backing ever for a British husinesswoman in computers - is behind Pamela Geisl-

er's new enterprise.
The ex-Zilog marketing mangetting as much as possible of the best Unix and APL systems under

"We want to assemble a range of products - tools, languages and

tion. Gelsier sees Sphinx's role as and talk' - that was the message. slandsdering the marketing respon-sihility and leaving the systems be connected with conventional,

ager is involved in setting up Sphinx, a software inarketing com-pany, in Maidenbead, aimed at and Silicon Valley's Yates Ven-

tures.
Geisler spoke of the difficulties
of obtaining start-up capital for
high technology projects.
"I underestimated — it became

applications – for the new micros which are going to be must popular, said Geisler.

Talks are going in with a number of fairly new and small companies which are strong on de- ning. 'Mortgage your house and velopment but weaker on promo- get on the road, then come back

idea of a female driver."

Aniong those taxing part in the negotiations are Precision Software, Rout Computers, Santa Cruz Operation, Human Cumputing Resources of Toronto, Dyadic APL, the National Westminster Bank subsidiary Software Ireland, and Silver Westware Route and a lot of co-operation. The possibles were narrowed rules and a lot of co-operation".

In the end two of them com-

bined to make her an offer - they were the New York-parented Alan Patricof Associates, with coosid-emble high technology schemes on both sides of the Atlaotic and Abingworth Management, a wholly UK-owned high risk investment company.

Both were early backers of Apple. APA has recently put its maney into Future Computers' British answer to the IBM-PC. Abingworth is linked to Keen Computers, which markets Onyx and Picxus hardware running un-



GEISLER . . . "One financier didn't like the idea of a female driver."

er Unix.

Sphinx starts life with eight staff

cial to watching the progress of the to be increased to 30 by year-end, according to Gelsler.

The main thrust will be towards
Unix operating systems and applications. Sphinx has sole rights to Yates products, and sees its Yates'

The company is pianned to go public within five years; its backer Abingworth is due to go public itself in the near future. There will be no new programwriting, but much effort on adapt-

other environments such as CP/M Sphinx plans to take oo lowed products from the US firms San Cruz Operation and HCR, To ronto, which have specialised a Unix systems on DEC equipmen

NCC cuts demand by pushing up fees

by Nuala Moran
THE National Computing
Centre's Microsystems Centre is
To support this change the cost boosting its charges to cut de-mand. Consultancy fees will go from £290 to £325 per day or £45

to £65 per hour.

Philip Virgo, manager of the centre, said he thought this would ease the problem which the centre has finding consultants capable of giving objective advice. At the same time he is boping the higher fees will increase cash flow so that the centre can train more consultants. the centre can train more consullants. At the moment there are four trainees who will be trained by this autumn.

According to Virgo another effect of the increases will be that people using the consultancy scr-vice will do initial research for themselves. The clinic consultancy will now be used to "finalise the short-list of suppliers and selection criteria rather than to answer basic questions well covered in our

of audio tapes has been reduced by 50%. Virgo said these answer most of people's initial queries which they would otherwise address to a consultant. Also, workshop services will continue to be offered free, This allows visitors access to about 1,000 different packages and a dozen machines so that they can see if a particular package will

wark against their test file.

Demand for the Microsystem
Centre's services has continued to grow during the two years since it was set up. In the last financial year, the centre, which is based at New Fetter Lane in London, helped 3,000 visitors to select over

5,000 systems.
Slightly over 50% of the visitors were small businessmen such as painters and decorators or small shopkeepers, wanting to know whether or not it was worth buying

About 25% were from medium sized businesses choosing between



VIRGO . . . Hoping to increase cash

a single machine, network or multi user system. The rest of the centre's visitors were a mixture of managing directors making declsions on campany policy, consul-tants doing their market research, and management services and data processing departments wanting to make bulk purchases.

The centre was set up in April 1981 with funding from the Department of Industry, to provide advice and help to small businesses wishing to atart using computers, It does not receive an operating subsidy from the government.

UK firms take Apple CAD to US

therm.

"The new company will be called Chessell-Robocom, and will st once use the distribution channels already established by Chessell, Eurotherm's operating subsidiary

test. Robocom latinched its first result it to product, Version 1, last May, and has so far sold 1,100 systems, 900 in the UK.

"We hope to push our UK sales to 3,000," says managing director market is lift ware olone.

by Philip Hunter
A JOINT UK venture has been launched in the US to exploit the huge North American market for graphics design software based on the Area miscreaments. The

the Apple microcomputer. The and development program, and development program progr

10 times bigger, with over half a world's 750,000 Apples, he add. The system acts as a gradic word processor with the ability build libraries of drawings, at recompile designs, such as fette layouts, as they are made.

The software, with a hardyn controller, costs £445. Bul Bale system, with computer and in resulution printer, costs upwards of £4,500, have sold to ter in the UK.

But in the US, with so man Apple users already, the blac market is likely to be for the sa-

BT Pactel link for comms service

by George Black
BRITISH Telecom is going into partnership with systems house Pactel to offer a business communications service to international field."

other," said Rooms. "We're trying to fill a gap which BT hasn't particularly attacked in the past and especially not in the international field."

The service is to be master-minded by British Telecom Inter-national's Jim Pickard and Pactel's

The joint venture - which i yet to be titled - will provide all-round service, beginning will consultancy and offering bel One of the main objectives will

Rooms said they were alread "We'll be looking at users' problems right from one end to the

ichns. In the past many of them
have had to deal with half a dozen
agencies in different countries—

rooms said they were and
talking to n number of multipage.

nal firms about possible countries.

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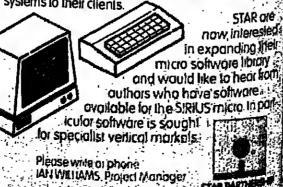
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MAR COMPUTER CACHO DEL SATURATI FASHEN STRUTTE A CONTENA

Microdata.

Since 1969, CMC has enjoyed continual success in the British computer sphere, first as a pioneer of key-to-disc and data entry systems and subsequently as a designer, manufacturer and supplier of advanced local area networks, easy-to-use relational database mini and

supermini computers, and For the past five of those fourteen years CMC has been a subsidiary of the innovative software tools.

worldwide Microdata Corporation. The association has enabled CMC to radically widen its horizons and manufacture in Britain for world, as well as British, markets and to collaborate on international high-technology research and development

Now the time is right for CMC to integrate more fully with its multi-national partners through whom a large and increasing proportion of output is exported. From now CMC's manufacturing and research interests wil

become Microdata UK Limited and CMC's sales and marketing organization will become Microdata Information Systems Limited. Little else changes: we are still 1,000 Britons, we are still expanding at 35% per annum, we are still net exporters earning foreign currency, we

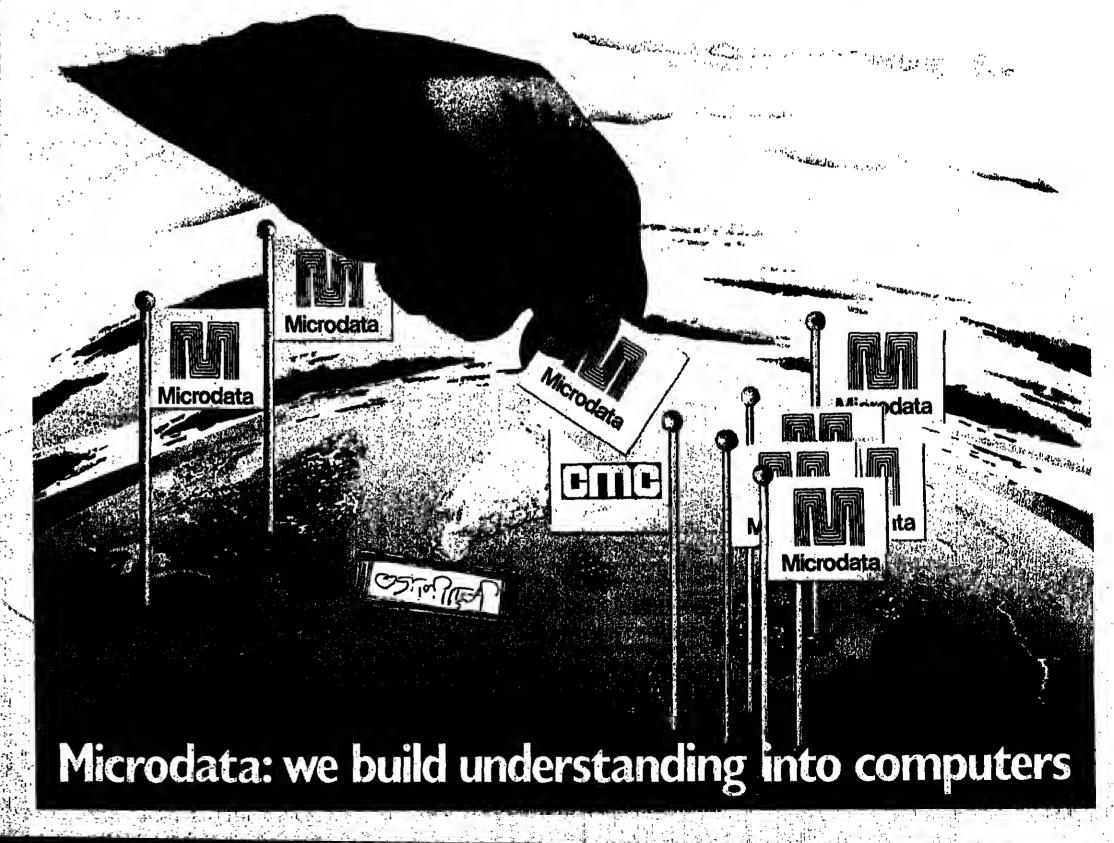
are still creating jobs (200 last year) and we still have a wealth of expertise of special relevance to the

computer needs of the public service sector, Times top 100 companies, and, of course, export. So from now please call us Microdata.

And, please, call us.

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Maylands House, Maylands Avenue, Hemel Hempstead, Herts. HP2 4RL Tel: (0442) 61266 Microdata: a McDonnell Douglas company.



Wang on target for a bumper year in Britain

Ferranti displays. Clearly great performers.

You can see a Perranti display a processor. The picture is clear. The characters can be a processor. If you're in the lits all because Perranti has so much experience in making displays and has developed display technology into an accepted amorig and users where they're in defence, art form that really combs across.

The picture is clear. The characters can be processor. If you're in the lits all because processor. If you're in the little is a processor if you're in the little is a processor. If you're in the little is a processor if you're in the little is a processor. If you're in the little is a processor if you're in the little is a processor. If you're in the little is a processor if you're in the little is a processor. If you're in the little is a processor if you're in the little is a processor. If you're in the little is a processor in the little is a process

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FERRANTI Computer Systems

by John Riley
WANG UK is well on track for a bumper year, claimed managing director lan Diery last week.
Recommended the first sine first sine for the next three or four years," said
Recommended the first sine for the first sine for the next three or four years," said Juoe to he £52 million.

his office automation strategy moves into top gear. "The race for the desk is on," he explained, "and Wang is well placed to take the lead." Diery believes that the key to success is to get personal users have both moved more computers into offices as quickly slowly than expected.

That is why he has re-organised his selling strategy, has lined up 30 dealers to sell his Professional Computer, and signed an agreement with Peachtree for ap-plications packages to go with them. About 40% of his 600strong workforce is in customer

He sees this trend continuing as programme to wean users of other said Diery. The key vertical areas manufacturers on to Wang equiphe is concentrating on are in-

houses for the conversions. "The houses we have signed up are significant with the right apecialisation," he said, "but we had hoped to have more lined up. We have been surprised that many of the systems houses we looked at were

Revenue for the first oine months of the current fiscal year is about 50% up on the same period last year and Diery expects the total year and Diery expects the total revenue for this year to the and of the minimum that the company."

Revenue for this year to the and of the minimum transition of the presence of this year to the and of the minimum transition. But not the minicomputer side there has been a slowing of Wang's software to be converted first,"

he is concentrating on are in-surance broking and banking. up Digital Equipment OEMs to help with package conversions and its move to snatch IBM System 34 users have both moved more slowly than expected.

Dicry hos had difficulty finding suitably specialised DEC systems houses for the conversions. "The fierce IBM resistance, and a waitand-see attitude by IBM users. Although it has won 15 full conversions so far, Wang UK has not yet broken into the major multiple CPU user base, such as banks and

"We have cracked multi-CPU deals in the US," said Diery, "and we are working hard on that front in Britain. Conversion is a complex business because of benchmarking, but we have set up a conver-

> conversions by September."
>
> There have been technical difficulties, particularly with screen handling. Extra conversion has been needed to provide utilities for hand, there have been few problems with batch handling. "Al-though the screen handling has been difficult, we have had 8 tremendous hit rate — almost 100%
> — with our RPG compiler for
> batch systems," said Reg Broughton, Wang UK's director of marketing support services.
>
> Wang is getting what it consid-

are well in hand. We'll see a rash o

ers surprisingly stiff resistance from IBM which is bettling to keep its System 34 users.



DIERY . . . "Race for the desk is on - and Wang is well placed to lead

Reuters aids bank to clear the clutter

by Philip Hunter
BANKS and money dealers can
now get at their different sources
of computer-based financial information from a single keyboard designed by Reutera, the world

The keyboard, with switching equipment, is aimed mainly at dealers who already use Reuters' worldwide communications network for access to various types of financial information auch as exchange rates and atock market

"Typically you need one terminal for each activity," says Reuters assistant sales manager Peter Mann. "There may be six or seven services altogether."

The new keyboard will enable the dealer to clear the clutter of hardware on the desk, and control all the data processing from a single workstation. "A user can look at some information, and then switch to an Apple computer to do some calculations," says Mann.

The dealer can also make instant comparisons between current money market rates, and his own forecasts held on an internal data-base.

ing services at banks and deka 69 countries. Users of its new can pass information to each with a guaranteed response that

Reuters has also developed "calculative datafeed" that also external data to go straight into in-house minicomputer or me frame for calculations.

With the new keyboard, i user can switch from an extent service straight into the in-host computer to examine the result almost instant calculations and a tistical analyses of the man formation

Although Reuters' keyboard exclusively for financial applications, the principle could equal well be applied whenever and decisions have to be made from several sources of information "But we are not interested to opening up a new market," and Mann.

Reuters was the first company offer international computer-base financial information when ! launched its commodities and foreign exchange service in the 1970s.

France takes just 5% of electronics market

electronica market which was worth \$330 billion last year, according to a report sponsored by the French Ministry for Industry and Research. But the French are making major breakthroughs with sales of computer technology and services.

The report is the result of a survey by the French Telecommunications and Electronics Council which has been set up by the Ministry to encourage co-observing Ministry to encourage co-operation between France and the US in the framework of the five-year Prench

ramework of the five-year French national electronics plan.

The report, which is available from France Cables et Radio, 42 Rue des Jeuneurs, 75002 Paris at a price of 200 francs, gives a detailed account of differences between the electronics industries of the two countries and overall world trade in these products. in these products.

The French Telecommunity

by Jack Gee
FRANCE has a puny five per cent share compared with the US' massive 47 per cent slice of the world.

\$22.6 billion of a total of \$330 billion of a billion lion of expenditure on electronics

products last year.
Industrial equipment took first place with \$105 billion. Components took \$42.9 billion billion billion billion. consumer goods \$42.9 billion worm, consumer goods \$42.9 billion, a computer aervices \$26.4 billion, tobotics \$23.1 billion and offic, automation \$16.5 billion.

In cash terms, the US share we \$155 billion and France's a men \$16.5 billion.

The Americans controlled 22

per cent of France's domestic mar-ket which is estimated at \$18 bil lion whereas the French cound only 0.3 per cent of the US hone. marker which is reckoned at \$155

The council stresses that France's sales to the Americans of electronic consumer goods are a most non-existent. But France's computer service firms control 0.6 per cent of American software and least foreign computers of the control of the cent of American software and the cent foreign computers of the cent foreign control of the cent foreign control of the cent foreign cent

SOFTWARE FILE Synapse supports the borough

SYNAPSE Computer Services of Chesham, Bucks, is giving soft-ware support to the London Borough of Barking and Dsgenham, to help overcome problems in uprating IBM DOS/VS to VSE

on the council's 4331 main(rsme.
The authority's DP head, Paul
Offen, said the decision to seek
third-party help followed 18
months of haasle and rapid progress was now being made. Technical staff on the borough's payroll were benefiting from working alongside the agency experts, he added.

BP signs Omega

BP COMPUTING subsidiary Scicon has signed up the Omega Group af Cleveland, Ohio, to market its computer-based training aid Cavis in the US. The computer audio-video instruction system was developed at the Sussex Institute of Higher Education with Scieon

Legal sickness

PETERBOROUGH Software has package with an online inquiry language, says the company's product development manager Nick Cook. Legal requirements of statutory sick pay are incorporated in the latest version.

SAS for Ramis

MATHEMATICA has linked its successful Ramis-11 datshase management system to an SAS interface. Ramis users are promised a user-friendly tool to translate data into the format needed by the SAS Institute's statistical analysis software. The systems run on 1BM and plug-compatible mainframes under VM/CMS and MVS/TSO

Let's crunch

US ARRAY processor specialist Floating Point Systems has brought in an enhanced Ansi-77 Fortran compiler, to speed number-crunching jobs, FPS-164 users who have subscribed to the software maintenance option get the update free.

Pentagon link

PENTAGON Business Systems of London has agreed with MGB, Hemel Hempstead to work on an interface between its order processing system Ordermaster and MGB's ledgers. A joint deframes by September. MGB ledgers are one of the products listed by ICL in its new Business-29 col-

VisiCorp buys

VISICORP has strengthened its bids to link IBM mainframes to the PC by buying the small Californian software house Communications Solutions. The Cupertino-based firm, founded in 1979, the Communication of the purchase price to have the programs for a week, with an option of buying afterwards. The exchange is intended to work as a clearing house, with subscribers kept in touch through a twohas 20 employees specialising h. IBM system network architecture (SNA) software. VisiCorp is teaming up with informatics for a project to let PC users access mainframe databases.

Focus down

ciaries.

"Educational programs have no use after you have learned the lessons, just as games often have no appeal after you have played with them for a bit," said Lento.

The exchange plans an advertising campaign in educational and other magazines to make people aware of the scheme agross the US.

Programs submitted will have to INFORMATION Builders' fourth generation language Focus has been moved down from large computers on to IBM's Personal. PC/Pocus was unveiled last week PC/Focus was unveiled last week at a user group meeting in the US and will be available in this country within four weeks. The firm has plans to bring Focus to other magazines to make people aware of the scheme across the US. Programs submitted will have to be originals and must be accompanied by the documentation. There will be a service charge of 25 per program plus postage cost.

Dataview moves into PC, Sirius

ONE OF the biggest British soft-ware publishers, Dataview of Colhester, is branching out from its Commodore base to cover Sirius and the IBM-PC.

Dataview's foremost product the word processor called Wordcraft, has been rewritten from its original 6502 Assembler in the portable high-level language BCPL, a relative of C.

The task has been undertaken by Wordcraft's author Peter Dawson. The decision to diversify was taken about 18 months ago by managing director Paul Handover, mean abandoning Commodore.

A new Sirius division has just been set up which should boost the

Why not

swap your

software?

1F YOU have a lot of software sitting on your shelf and don't want it any more, now you can

swap it.

The idea belongs to Samue Bleecker and Arline Cherniak, his

wife, who have set up a nationwide software exchange in the US, based at Montclair, New Jersey. They were founders of a software

library last year which has turned

out to be so successful that they decided to try launching the new

programs that they have lost in

terest in and won't ever use again, but they dan't know what to do with them and want something

new," said the exchange's Thoma

"It's an aspect of the business that has been completely overlooked. We think we are the ploneers in the field and that

others will be copying us as they have already done with the

Bleecker, formerly a public rela-tions officer for Bell Labs, set up his own PR consultancy, the Tech-nology Communications Group, before branching out in these soft-

ware experiments.

His library now holds some 300 programs mostly for IBM and Apple machines, but also some for Atari, Commodore and Texas In-

tion of buying afterwards. The ex-change is intended to work as a clearing house, with subscribers kept in touch through a two-

monthly newsletter.
Individuals will have to pay a
\$75 annual membership fee; institutions will be charged \$250. The
arganisers forsee that schools will

be among the most likely benefi-

So many people have shelve full of games and education

Handover.
The Sirius version of Wordcraft,

running under Microsoft's MS-DOS operating system, has just been introduced, to be followed shortly by the 1BM version. As many as possible of the company's other packages will be rewritten for the Sirius and 1BM micros, says Handover, who is aiming for a £2 million turnover this year.

Wordcraft's sales were bumped up by the accompanying dongle, or hardware protection device, which prevents unauthorised copying. Exports have accounted for much of the revenue, with versions now sold to 30 countries, in

HANDOVER . . . Aiming at £2 million turnover this year.

seven languages, including Afri-kaans. Users have included ICI, the Past Office and the Ministry of

versions of its DTL products for machines other than Commodore. lts only in-house-developed pack-age, the solicitors' system Datalex,

this year.
The DTL range includes a Basic compiler from Drive Technology, which speeds up code execution. DTL-Basic, also nvailable in o ver-

Kildall puts Rowley in charge to go for growth

DIGITAL Research founder Gary Kildall has promoted John Rowley from chief operating officer to president Rowley takes over from Kildall, who remains chairman and becomes chief operating

Kildall says the promotion is reward for profitable organisation of the company over the past 18 months to target new high-growth

One of Rowley's first duties as president was to announce the launch of a Far East operation headquarters in Tokyo.

He said he saw the move as a key

step in the strategy to build a worldwide network of direct sales and customer support facilities for the firm's CP/M products.

Last week Digital announced the introduction of a Personal Basic language to compete with Microsoft's M-Basic and an agreement with VisiCorp to link its VisiOn graphics operating soft-ware up to the CP/M systems.



service for DEC users.

already proven in commerce, banking, industry and research.

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risk, call Lambart. Speak to Frank Richardson on Maidenhead (0628)

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Software File is compiled by George Black.



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efficient - and highly competitive. Equally, we're very

WELFER Rate Indicated by the August State of the State of

Wang on target for a bumper year in Britain

by John Riley
WANG UK is well on track for a bumper year, claimed managing director lan Diery last week.

Support engineering.
We are over the hump in engineering and sre in good shope for the next three or four years," said Revenue for the first time months of the current fiscal year is about 50% up on the same period last agers all have over five years' exyear and Diery expects the total revenue for this year to the end of

his diffice automation strategy manufacturers on to Wang equiphe is concentrating on are inmoves into ton year. "The race for ment. The cumpany's drive to sign surance broking and banking. moves into the gear. "The race for the desk is ort," he explained, "and Wang is well placed to take the lead." Diery believes that the key to success is the get personal users have both moved more as possible. That is why he has re-organised

his selling strstegy, has lined up 30 dealers to sell his Profes-

perience with the company." But on the minicomputer side

there has been a slowing of Wang's He sees this trend continuing ss programme to wear users of other alowly than expected.

Dicry has had difficulty finding suitably specialised DIC systems houses for the cunversions. "The liouses we have signed up are sigsional Computer, and signed an nificant with the right specialisaagreement with Penchtree for applications packages to go with them. About 40% of his 600strong workforce is in customer systems houses we looked at were

Wong VS range of minicomputers. So far three to four DEC systems houses have been signed up, but sent. "We'd prefer to wait for the software to be convened first," said Diery. The key vertical areas

Wang's move to get IBM System 34 users to move over to its liss gone more slowly than hoped. This has been caused by a combi-nation of technical problems, ficrce IBM resistance, and a waitand-see stritude by IBM users. Although it has won 15 full coover-

FERRANTI Computer Systems

too general in their spproach."

"We have cracked multi-CPU
His search began nearly two deals in the US," said Diery, "and nionths sgo as part of his strategy to siphon off DEC users to the in Britain. Conversion is a complex business because of benchmarking, but we bave set up a conversion centre in Isleworth and things sre well in hand. We'll see a rash of

There have been technical difficulues, particularly with screen handling. Extra conversion has been needed to provide utilities for converting data files. On the other hand, there have been few prob-lems with batch handling. "Al-though the screen handling has been difficult, we have had a tremendous hit rate - almost 100% - with our RPG compiler for batch systems," said Reg Broughton, Wang UK's director of mar-

Wang is getting what it considers surprisingly suff resistance from IBM which is battling to keep its System 34 users.



DIERY . . . "Race for the desk is on - and Wang is well placed to lead."

Reuters aids banks to clear the clutter

by Philip Hunter
BANKS and money dealers can
now get at their different sources
of computer-based financial inormation from a single keyboard designed by Reuters, the world

news organisation.

The keyboard, with switchiog equipment, is aimed mainly at dealers who already use Reuters' worldwide communications network for access to various types of change rates and stock market

"Typically you need one terminal for each activity," saya Reuters assistant sales manager Peter Mann. "There may be six or seven

The new keyboard will coable the dealer to clear the clutter of hardware on the deak, and control all the data processing from a single workstation. "A user can look at some information, and then switch to an Apple computer to do some calculations," says Mann.

The dealer can also make instant comparisons between current money market rates, and his own forecasta held on an internal data-

Reuters has 34,000 screens ing services at banks and dealers in can pass information to each other with a guaranteed response time of four seconds.

Reuters has also developed a "calculative datafeed" that allows external data to go straight into an in-house minicomputer or main-frame for calculations.

With the new keyboard, the user can switch from an external service straight into the in-hous computer to examine the result of almost instant calculations and statistical analyses of the raw in

Although Reuters' keyboard le exclusively for financial applica tions, the principle could equally well be applied whenever quick decisions have to be made from several sources of information. "But we are not interested in opening up a new market," says

Reuters was the first company offer international computer-base financial information when le launched its commodities and foreign exchange service in the

lion of expenditure on electronics

products last year,

France takes just 5% of electronics market

by Jack Gee
FRANCE has a puny five per cent
share compared with the US mas
1. Says that on a world scale informs
1. Says that on a world scale i lve 47 per cent slice of the world electronics market which was worth \$330 billion last year, according to a report sponsored by the French Ministry for Industry and Research. But the French are making major breakthroughs with sales of computer technology and

products last year.

Industrial equipment took first place with \$105 billion. Components took \$42.9 billion worth consumer goods \$42.9 billion computer services \$26.4 billion robotics \$23.1 billion and office automation \$16.5 billion. The report is the result of a survey by the French Telecommuni-cations and Electronics Council which has been set up by the Ministry to control Ministry to encourage co-operation between France and the US in the framework of the five-year French

national electronics plan.

The report, which is available from France Cables et Radio, 42 Rue des Jeuneurs, 75002 Paris at a price of 200 francs, gives a detailed account of differences between the electronics industries of the two countries and overall world and and overall world. countries and overall world trade. in these products.
The French Telecommuni-

In cash terms, the US share was \$155 billion and France's a mere \$16.5 billion. per cent of France's domestic market which is estimated at \$18 billion whereas the French control only 0.3 per cent of the US home. market which is reckoned at \$155

The council stresses that France's sales to the Americans electronic consumer goods are almost non-existent. But French computer service firms control 0.6 per cent of American software and nesd foreign companies in this field across the Atlantic cations and Electronics Council

SOFTWARE FILE **Synapse** supports the borough

SYNAPSE Computer Services of Chesham, Bucks, is giving soft-ware support to the London Borough of Barking and Dagenham, to help overcome problems in uprating IBM DOS/VS to VSE oo the council's 4331 mainframe. The authority's DP head, Paul

third-party help followed 18 months of hassle and rapid progress was now being made. Technical stuff on the borough's payroll were benefiting from working alongside the agency ex-perts, he added.

BP signs Omega

BP COMPUTING subsidiary Scicon has signed up the Omega Group of Cleveland, Ohio, to mar-ket its computer-based training sid Cavis in the US. The computer audio-video instruction system was developed at the Sussex Institute of Higher Education with Scieon

Legal sickness

PETERBOROUGH Software has peter Bordough Software has updated its popular Unipersonnel package with an online inquiry language, says the company's product development manager Nick Cook, Legal requirements of stautory sick pay are incorporated in the latest version.

SAS for Ramis

MATHEMATICA has linked its successful Ramia-11 database management system to an SAS in-terface. Ramis users are promised a user-friendly tool to translate data into the format needed by the SAS Institute's statistical analysis software. The systems run on iBM and plug-compatible mainframes under VM/CMS and MVS/TSO operating systems.

Let's crunch

US ARRAY processor specialist Floating Point Systems has brought in an enhanced Ansi-77 Fortran compiler, to speed number-crunching jobs. FPS-164 users who have subscribed to the software maintenance option get the update free.

Pentagon link

PENTAGON Business Systems of London has agreed with MGB, Hemel Hempstead to work on an interface between its order processing system Ordermaster and MGB's ledgers. A joint development team aims to complete the system for ICL ME29 mainframes by September. MGB ledgers are one of the products listed by ICL in its new Business-29 collaborative venture.

VisiCorp buys

VISICORP has strengthened its bids to link IBM mainframes to the PC by buying the small Cali-formian software house Communications Solutions. The Cuper-tino-based firm, founded in 1979, has 20 employees specialising has IBM system network architecture (SNA) software. VisiCorp is teaming up with Informatics for a project to let PC users access main-

Focus down

INFORMATION Bullders' fourth generation language Focus has been moved down from large computers on to IBM's Personal. PC/Focus was unveiled isst week at a user group meeting in the US and will be available in this country within four research. and will be available in this country within four weeks. The firm has plans to bring Focus to other personal machines late: this year, including DEC, Texas Instruments, Olivetti and Xerox.

ciarles.

"Educational programs have no use after you have learned the lessons, just as games often have no appeal after you have played with them for a bit," said Lento.

The exchange plans an advertising campaign in educational and other magazines to make people aware of the scheme across the US. Programs submitted will have to be originals and must be accompanied by the documentation. There will be a service charge of £5 per program plus postage cost. program plus postage cost. Software File is compiled by George Black.

Dataview moves into

ONE OF the biggest British soft-ware publishers, Dataview of Col-chester, is branching out from its Commodore base to cover Sirius and the IBM-PC.

Dataview's foremost product, the word processor called Wordcraft, has been rewritten from its original 6502 Assembler in the portable high-level language BCPL, a relative of C.

The task has been undertaken by Wordersit's author Peter Dawson. The decision to diversify was taken about 18 months ago by managing director Paul Handover, who insists that the move does not

Why not

swap your

software?

sitting on your shelf and don't

want it any more, now you can

swap it.

The Idea belongs to Samue Bleecker and Arline Cherniak, his wife, who have set up a nstonwide.

software exchange in the US, based at Montclair, New Jersey. They were founders of a software

library last year which has turned out to be so successful that they

lecided to try launching the new

"So many people have shelves full of games and educational programs that they have lost in-terest in and woo't ever use again,

but they doo't know what to do with them and want something new," said the exchange's Thoma

that has been completely overlooked. We think we are the

ploneers in the field and that others will be copying us as they have already done with the

library."

Bleecker, formerly a public rela-tions officer for Bell Labs, set up

his own PR consultancy, the Tech-nology Communications Group, before branching out in these soft-

ware experiments.

His library now holds some 300 programs mostly for IBM and Apple machines, but also some for Atari, Commodore and Texas In-

struments.
Subscribers pay about a quarter

of the purchase price to have the programs for a week, with an op-tion of buying afterwards. The ex-

clearing house, with subscribers kept in touch through a two-monthly newsletter.

Individuals will have to pay a

\$75 annual membership fee; insti-tutions will be charged \$250. The

organisers forsee that schools will

e among the most likely benefi-

mean abandoning Commodore.

A new Sirius division bas just

company's dealer network from 400 to 700, according to

The Sirius version of Wordcraft, running under Microsoft's MS-DOS operating system, has just been introduced, to be followed shortly by the IBM version. As many as possible of the company's other packages will be rewritten. other packages will be rewritten for the Sirius and iBM micros ssya Handover, who is alming for a

Wordersit's sales were bumped

up by the accompanying doogle, or hardware protection device, which prevents unauthorised

seven Isnguages, including Afri-kaans. Users have included ICI, the Post Office and the Ministry of

will be put on the IBM-PC later this year.

The DTL range includes a Basic compiler from Drive Technology, which speeds up code execution. Dataview is also working on new versions of its DTL products for machines other than Commodore.

DTL-Basic, also available in a version for the Commodore 8096 (as copying. Exports have accounted for much of the revenue, with versions now sold to 30 countries, in age, the solicitors' system Datalex, sion for the Commodore 8096 (as System 96), was written by David Hughes of Drive.

Kildall puts Rowley in charge to go for growth

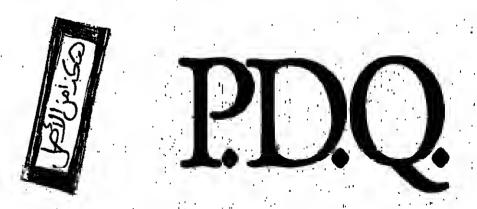
DIGITAL Research founder Gary Kildall has promoted John Rowley from chief operating officer to president. Rowley takes over from Kildall, who remains chairman and becomes chief operating

Kildall says the promotion is reward for profitable organisation of the company over the past 18 months to target new high-growth

markets.
One of Rowley's first duties ss president was to announce the launch of a Far East operation headquarters in Tokyo.

He said he saw the move as a key step in the strategy to build a wurldwide network of direct sales and customer support facilities for the firm's CP/M products.

Last week Digital announced the introduction of a Personal Basic language to compete with Microsoft's M-Basic and an agree-ment with VisiCorp to link its VlaiOn graphics operating soft ware up to the CP/M systems.



We'd like to introduce a new level of service for DEC users.

We're offering a range of specialist skills already proven in commerce, banking, industry and research.

We'll plan, configure, supply, install and provide field support at any level. And back this up with full quality assurance.

purse strings, we're fast.

efficient-and highly competitive.

Equally, we're very

flexible to meet your needs. For example, we can supply a full range of compatible equipment that can open a few eyes on both price and performance.

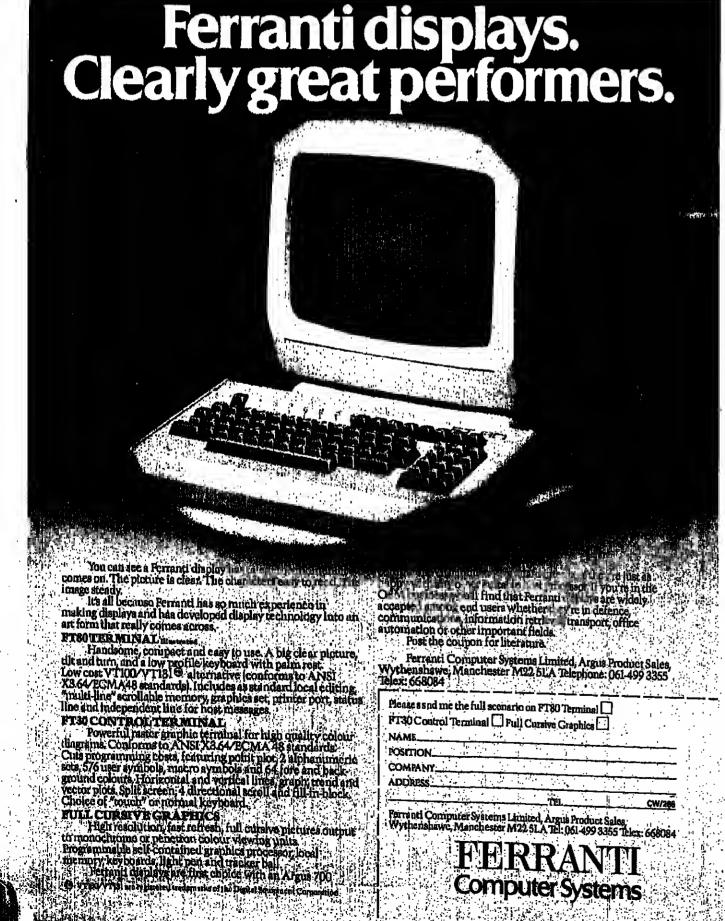
From designing a major system, to supplying simple system enhancements, our skills are currently enjoyed by many major companies.

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Lambart Computing, 52, Moorbridge Road, Maidenhead, Berks. SL6 8BN. Tel: 0628 72037.

Market and the state of the sta



Turnround at former Logabax UK

Cuts bring first profit in years

PRUNING of products and staff has turned a loss of £460,000 in 1981 into a £245,000 profit for former UK subsidiary of French company Logabax in the year ended December 1982.

vember 1981 and at once set about cutting out loss-making products

was concentrated.

The bespoke suftware team was and sliedding the associated staff.

turnovel was down to £2.42 million from £3.6 million. But the company is now profitable for the "It seemed to me that Logabax

huy-out by managing director Paul Bion, and fellow directors Chandra The management of Logahax UK hought theinselves out of the orbit of the French parent in Nobusiness sector that the pruning

cut in its entirety. The other two sections, peripherals and engi-The workforce was eventually sections, peripherals and engineering, were left more or less in-

first time in years, and has found was trying to cover too wide a TFB 500 series for larger legal Systime.

Available now-

with more capability

of microsystems is bigger; a better source than ever for defining,

widening or updating your microcomputer system.
THE REASON: Data General hardware and software is here, and

Systems available include Data General's

microNOVA* family, high performance Eclipse* S/20 systems, plus a full range of peripherals.

Wide demonstration capability is

offered, and as you would expect with

It's easy to find out how widely

makes this one of the most active micro service centres in the region -

before, during and after the sale.

Lock Distribution can help you.

To pick up the news, just lift up

Lock Distribution, full technical back-up

Not simply "to order," but off the shelf.

with it has arrived a new dimension to Lock Distribution service.

HE NORTH'S MOST DEDICATED distributor

ctrum," said Ilion. "We decided to concentrate on what we were good at, and focused on the legal profession."

Bion and the other directors learned from the Logabax exper-ience that it was fatal to concenlearned from the Logabax experience that it was fatal to concentrate on a single source of lardware. The company new heardware the company new heard hardware. The compsny now has two main sources for its small business line - Systime and Onyx.

BION "Concentrated on what we were good at".

practises with between £13,000 and £45,000 to spend on a system. TFB 500 supports up to eight terminals, and is a 16-bit systembased on \$500 supports up to eight terminals. The results system bardware.

£12,000. But Bion notes that Onyx offers a bigger machine capable of supporting several terminals, and a small machine can be had from

Miles setback

£814,000 in November 1982 on a profit forecast of £750,000. The directors have proposed dividend of £68,000.

Hot competition

GROWTH of Tandem Computers, the world leader in fault-

tolerant hardware, has slowed as

competition from IBM, CTL, Sta-

tus and others heats up. But to the three months coded March 1983,

sales were up a sausfactory 30% to

MILES 33, the Berkshire-based maker of computerised typesetting equipment, reports a decline in turnover from £2.2 million to £1.9 million for the year ended February in which it went public. But pre-tax profits were up from £209,000 to £225,000, and the company blames the launch of its new System 300 typesetter for the drop in turoover. The company is paying a dividend of 2p a share.

Sales doubled

US ELECTRONIC giaot Gould has increased turnover by over 30% to \$1.24 billion for the year ended December 1982. Gould's UK operation has done even better with a 45% increase in turnover, and a doubling of sales over the

Micro profits Media price more than cutting war tripled takes its toll

MICRO Business Systems has more than tripled its pre-tax profits from £250,000 to £821,000 for the year ended December 1982, on turnover also well up, from £2.6 million to £6.7 million.

The company came to the Unlisted Securities Market to raise £814.000 in November 1982 on a A PRICE cutting war and makers of magnetic media is slashed profits of System Indiries of the US from \$381,00; 1982 to \$71,000 for the first on ter ended March. Turnover was by 21% from \$17 million to \$2 million.

The company, which met high performance disc sad to storage systems, also blams i creased research and developments for the profit fall costs for the profit fall.

Banking boom

TURNOVER doubled to \$17 m lion at US financial software has Hogan Systems for the year ends March 1983. But the net page iocrease was even more dramin from \$1.1 millioo to \$3.7 millio \$96 millioo, and profits rose 23% to \$10.4 million. The company increased turnover by 60% in its last full trading year ended September 1982. In the previous year the inand the company tripled its he dividend. A boom in the man for banking applications system in the US was chiefly respondi for the company's success.

Services sale

US INSURANCE group Salecti to sell 80% of its profitable come ter services subsidiary Sslecomy other insurance companies. Sale expects to make \$24 million for the sale, an after-tax profit of \$02

\$4 million profit PERIPHERALS maker Decision

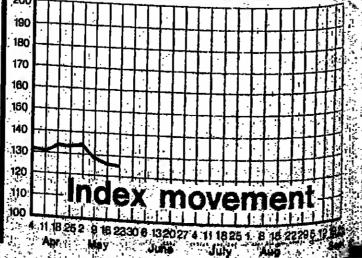
Data has doubled its profits for \$2 million to elmost \$4 million & the year ended December 1911
But this is still only 5% is turnover, which also jumpel sharply frum \$50 million to 30 million. The cumpany hopes to bring its profits up to 10% by a creasing its penetration of the 182 computer peripherals market side a new line of mutric printers and a new line of matrix printers, and communications controller alloing up to nine workstations tok linked to an HIM host.

SHARES TABLE

The shares table, which is specially compiled for Computer Weekly, show selected computer companies that reflect the state of the computer industry.

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table shows the closing prices on Thursday. The Share Index is based on the prices of the sales. Highs and Lows have been adjusted where necessary.



MICRO NEWS

Retail trade gets Professional help

by George Black
WHAT is claimed to be the first full applications system oo DEC's Professional micro was released last week by the Hoskyns Group. The £26 million London systems house has chosen the Mumps language as the basis of its move into turnkey solutions for retailers.

Although retailing is reckoned by economists to be third higgest area for computerisation after the government and banking, to date many retailers know little either of fire the main hardware base has government and banking, to date many retailers know little either of firemes giving complete Cobol

many retailers know little either of the possible benefits of automation systems under the MAS modular or of what computer systems are applications systems labels.

complete range of DEC hardware from the little Professional system at under £10,000 to a vast Vax 11782 complex coating about 11782 complex co

DATA GENERAL has completed its nationwide network of distribu-

tors for microcomputers and re-leted products with Lock Distri-bution slotting in to cover the North of England. Lock, part of Newey and Eyre Electronic Distri-

butors, of the Tilling Group, joins Celdis and Crellon as DG's indust-

rial electronica distributors in the

The distributorship will stand even if the current City takeover bid for Tilling by BTR is

Lock will supply microcom-puter and peripheral products, with software back-up and a variety of options and interface de-

vices. With £175,000 of stock al-ready in place, Lock aims to pro-

available.

Attong the largest contracts was
Hoskyna' aim is to capitalise on
the huge untapped market by
using the same software across the
complete range of DEC hardware

tions engineer to provide custome support and service. Maintenanc contracts will be taken nut with

Milner, DG's UK sales manage

explained that the decision to limit the number of distributors was

made because DG saw no point flooding every available deal

"We wanted our dealers to be committed because this promote customer confidence. We don't see

Lock as a customer but as an extension of DG," he said.

DG will maintain its direct sale

force, which will work in tandem with Lock. Milner explained that DG's sales force was built up for

selling systems and does not have experience in the micro market. "We decided we could not l successful in that market withou an industrial distributer". The three distributors DG

appointed will not be limited geo-graphically, but Milner said he thought practical considerations might limit their range, for

The distributors will work in contact with DG'a direct sales force. "There is a defined niche for the distributors and a defloed

niche for the direct sales force. We

will go to great pains to enau

there is no competition between

the two."

Lock is one of the largeat electronic component distributors in the North.

with its products.

500,000. hardware targeted towards what Penwear for the clothing trade and "This did not give a wide choice retailers want," said Holway. Penmerch for supermarkets.



STREETER. . . . "Offered more money and a new challenge"

New blood at Sinclair distributor

by George Black PRISM, one of the biggest Sinclair distributors, has strengthened its management team with four new recroits and expects to announce first-year income of over £10 mil lion, it was announced this week.

Sharp Electronics' general man-ager for systems Paul Streeter has been taken on at the head of the data communications team. Streeter denied that bis decision to quit the big Japanese consumer electronics firm was connected with internal reorganisation there.

"I was simply offered more money and a new challenge with Prism," he commented.

Dragon's Tony Brown has joined Prism's distribution opera-tion, which is the Sinclair side of

Dixon's assistant sales director Tony Kauffer becomes merchandising manager for Prism's soft-ware products division, in which David Crosweller, from Progres-sive Distribution, the Seiko agency, will be business manager.

Prism supplies about 350 retailers with Sinclair equipment.

DG distributor for the North named vide off-the-shelf delivery. The company has appointed Jerry Wood, formerly of Krato Analytical Instruments, as applica

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the phone

Euro boss for Apple

by Jack Gee MICHAEL SPINDLER will take over as Apple Computer's new general manager for Europe from Ken Zerbe on July 4 – American independence day – It was revealed at the company's

WOOD. ... To provide customer

European headquarters in Paris. Zerbe, who has been in Europe for one year after serving as Apple's executive vice-president for finance and administration, now becomes vice-president and general manager for intercontinen-tal operations. His area covers the world outside North-America and

Spindler had been European marketing manager and until now (QLC)

move because he speaks three European languagea — as well as Basic and Pascal."

The new sp pointments for Spindler and Zerbe are interpreted at Apple as moves to beef up the company's marketing efforts. Royball said: "We plan to increase our sales teams by 50% in each European country during the combing year."

promotico at Apple's Europeac headquarters in Paris, Phil Roybal, product marketing manager for Burope told Computer Weekly "Mike Spindler's appointment is excellent. It's a particularly good move because he speaks three



Man behind Ada wants it as a UK standard

"I'D like to write some programs again," imused John Barnes. "It must be years since I wrote anything that someone used—wonder if I could still do it."

This is a startling statement from one of this country's top commuter language experts. But it large-machine prototype.

from one of this country's top commuter language experts. But it is easily explained — he has spent the last seven years or so co-ordinating the development of Ada, which many think is the language

of the future.

A Cambridge University mathematician, he joined ICI in 1961 and spent five years working on numerical analysis. He was based at the company's research centre at Bozedown House in South

It was during a summer school at Oxford in 1963, when he met Edinhurgh University's Donald Michie, that his imagination was fired by the possibilities of compu-

After that he wrote a program on the Ferranti Argus machine to solve the prohlems of a chemical plant, and developed SML, the small machine language — "it was like Alcol 60 color with a multiple of the small machine language — "it was like Alcol 60 color with a multiple of the small state of the s like Algol 60 only with parallel

He was behind ICI's blggest contribution to the software world, which was the language RTL2. It began as RTLI, a process control language which was essentially a

large-machine prototype. RTL2, the slimmed down verslon, was an enormous hit, is now used hy some 200 sites, mostly on DEC PDP-11 and Vax minis, and has found its way all over the world. Barnes was head of a team

by George Black

of seven which created it, before the rights were sold to Systems Programmers Ltd in the mid-

"I had to leave ICI because the laboratory was closed down and ICI was getting out of software. My job moved to Systems Programmers and I had to go with it. I was naturally a bit nervous about it because ICI was, nfter all, the big-geat firm in Britain; but who were SPL then?"

velop a language which would stop the proliferation of languages on the market during the Seventies and become the new industry standard," he said. "So I am very glad that it has now been accepted by Ansi. But I don't think it is the

He did not think an ideal language could ever he developed because there was so much in the aubject thar was a matter of opinion or taste. But there was a growing understanding in the in-dustry of what conventions ought

"Software is still a fairly primi-tive art, but Ada is a step in the right direction and I'd like to see

Britain adopting It as a standard."
His next five years are to be devoted to the CHAPSE project ness from their own points of view. his firm is allying with ICL, SDL look at the problem from a marand Software Sciences to develop an Ada and Chill environment. He keting point of view, the sales people from their standpoint, and the systems staff from the ways in which the system can be configthought the resultant product could be a hig money-spinner in And after CHAPSE? "Well, I

feel a reviving interest in maths -maybe because my elder daughter

David Rodway had just set up SPL's research centre at Ahingdon and It was here that RTL2'a men found their new home.

He was involved with the conception of Ada from Ita very beginning. "The idea was to de-

WE SHOULD APPLY FOR SOND ALVEY CASH TO SEND A REALLY GOOD SPY TO

SILICON VALLEY.

Decision-takers must talk the same language

MANY computer companies The way, I believe, is for the supplier to identify his prospects' real problems far more carefully. The supplier's staff in all departcould help themselves — and their eustomers — if only they had a ing. That is my firm opinion having worked with companies which both sell and buy computer sertomer must be trained to better The story of the company which

hought computer equipment which didn't quite match its needs

is, of course, part of the industry's

legead. What has not become quite so clearly studied is why companies have bought - or been

sold - equipment which did not

There is certainly some blame

clearly match their requirements.

among computer users for this. Too often they have not identified

their needs clearly enough, and as a result, have heen unable to ex-plain those needs to suppliers. But I believe the burden of

blame rests equally with suppliers and customers. They are, after all,

the experts, and the user cannot be

expected to have such a clear grasp of the technical possibilities of

found is that too often computer

after case, when they get a new

The ptohlem is that all these

sult they do not get to the heart of

the problem.

Because of this they do not put

their organisation or proposals in the best light.

So how can this he overcome?

appraise his own needs. By doing this jointly they will be able to analyse better what the customer sees as his problems and

configured ond the way him to meet identified needs is

Another orea in which some

need to gain a competitive and tage is after-sales serifu

Suppliers alrould coosider tris

their field service engineeri "snalytic trouble-shooting"

technique which enables an in

neer to identify trouble que and accurately, find the root de

cause, fix it and extend the far

avoid repetition. Companies which have adop

this approach have found the

gineers have improved their a so nal problem-solving at

planning skills, demonstrated creased confidence in front of a

tomers and enhanced the image

the company.

If suppliers are to adopt in

effective approach, they mun's prepared to train their staff by

process of decision-taking. The

raining involves improving a

skills of managers in decision as

ing in their own and their custo

It is an approach to operation

ision-taking which will get m

Brian Bentle

suppliers and eustomers talking

common language - the language

Brian Bentley is managing directed

10 YEARS AG

FROM COMPUTER WEEKI

OF MAY 24, 1973: The govern

ment was expected to make a

period up to September 1%, after which the company word aim to be independent of all pr

ermient support . . Median is laries for data processing managers, according to the later survey, was £3,016 a year ... Data Logic announced the later duction of a new business and

duction of o new hureau series

to provide users with "a full a

run the predictions of Nostrib

mus through a computer. He be published a book in France

titled La Fin du Monds.

And some of the news is good.

The world will not after all end's

interests.

of mutual success.

Kepner Tregoc UK.

cially important.

The supplier's staff in all departments must be trained to look at the customer's problem from his point of view. As indeed the customer must be trained to better appraise his own

devise a system which puts for-ward the best solution to his proh-

equipment as the suppliers who are desling with it every day. Part of the problem we have They need, as a team, to devise the best possible configuration to suppliers prepare a pitch for new business in the wrong way. In case prospect the various departments of an equipment supplier will sit down and think what they can hring to bear on that client's busir's needs.

In order to reach that desirable end, both parties need to pass The marketing management will through several stages. The supplier's role is then to produce two or three alternatives to meet those objectives. The evaluation of these alternatives will determine which is the most effective.

the proposal to show quite clearly how his chosen spproach most people are speaking different lan-guages – and often have con-flicting objectives – and as a reeffectively meets the client's needs. This structured method of presenting a proposal is becoming a vital ingredient of success, for increasingly there is only a narrow technical advantage between one

rocet the customer's needs. As a result, suppliers will be showing to hest advantage the benefits of their approach to the potential custom-

Finally, the supplier organises

piece of equipment and another.
Therefore, the way the system is

ComputerWeekly

Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS Thursday, May 26, 1983

Alvey chief takes industry to battle

BRIAN OAKLEY, the man who will direct the Alvey Programme, is not one to mince words. It is economic war, he said, and if the UK does not stop bickering the promise of information technology will not be fulfilled.

Oakley clearly understands that his new position will place him on a very sticky wicket. "I will he expected to walk on water," he told a group gathered in London last week to inaugurate the SPL-Insight study group on Japan's fifth generation project.

It was expected that the persun chosen to head the Alvey Programme would be a well-known industrialist. We called for just such a person on these pages when the Alvey report was first released. Another civil servant warn down by the demands of burcaucracy did not hode well for the success of

Yet meeting Oakley dispels most of the doubts. He was even able to joke about the fact that he was not that wellknown industrialist everyone hoped for. Mudesty mixed with a realistic appreciation of the difficulties to he faced is a combination that takes Oskley shove the average civil ser-

It is possible that once Oakley moves from the rural surrounds of the Scientific and Engineering Research Council in Swindon to the grey corridors of the Department of Industry he will lose something of his openness. He promises a small, unbureaucratic directurate, with an open door policy.

If he succeeds in that there will be one island of government unlike any other.

Real support from industry, as well as government and academia, is essential if Alvey is to become more than a

Oakley expects a hard fight to make Alvey work. Now is the time for industry to give him its unreserved backing.

War of awareness

THE American computer Press calls the National Computer Conference, which has just ended at Anaheim in California, the biggest computer show in the world. It isn't. The computer section at the Hanover Fair bas

twice the number of exhibits and 30% more visitors. What the Americans might more accurately have done is claim that the NCC is the most important computer show in

the world, and not just because it suffers from the blessing It is held with tremendous elan and pizazz, to use an acutely American phrase, in the world's biggest market for

the sale, and indeed production of computers. And that's the rub. To get the kind of take-off of an

Apple or an Atari, you bave to start in America. It was sad, therefore, to note an absent ICL which according to its directors, is making major strides in America. Nixdorf of Germany, which now claims to be Europe's number two independent computer company after ICL, and which is about the same size in the US as ICL, was there with a splendid stand — and 30 European editors to ensure that Europe heard that Nixdorf was at the NCC.

Showing the flag for Britain was largely left to a group of the small and newer companies under the aegis of the Business Equipment Trade Association.

Rair was there, and Torcb, and with news of a big US deal in the wind so was Future Technology Systems.

But perhaps the bravest appearance of all was made by UK stock market newcomer Micro Focus, which bad two well positioned and enthusiastically manned stands at the

That said, there was still a touch of the "thin red line" about the UK's presence, It was as though we still haven' quite grasped either the significance of the American computer market and a presence in it, or the significance of going to where the whole world goes to see the computer

Without that perception there is little chance the UK will ever win that vital war of awareness.

1984 and all that . . .

THIS week's example of the strange things people say about computers was sent in hy Andrea Rills, of London, who wins £5.

Computers will soon outstrip humans in the same way humans have outstripped apes. In a few decades they will be creating arts whose beauty is lost on us and sciences whose meaning is beyond our comprehension. Radio Times

Software houses slur HAVE seen a number of items in sary to keep a record of each aver-

the computer Press quoting the self-styled SSP expert Michael Coplestone of Information Management Services, including your little case of a disputed PIW replestone of Information Management Services, including your Workplace (Computer Weekly, May 12), as saying that many computer systems for SSP are suspect. quiring an insurance officer or trithing up to a year in the past.

As an ex-employee of the DHSS whose understanding of SSP has

systems for SSP are suspect.

I think it pertinent to point out that the test eriteria used by IMS was supplied by Industrial Relations Briefing which has a close interest in MicroSSP produced by CMG. While not displaying the problems of SSP quoted in the nems, I consider that the potential hlanket slur on software houses should be questioned. been veited by the Department, I should be happy to offer an un-biased opinion to any company producing SSP software. We our-selves have produced an SSP calculator hus the market is big enough for all. I am only concerned that the legislation is cor-While the conception of the rectly interpreted — a legacy perhaps from my DHSS dayal IBM, Geest Computers and Gor-CMG systems seems good, there are other systems which grasp the problem and succeed. IMS does don and Gotch were all appreciative of my suggestions - even CMG took note!

scientific atudies.

The states can be rectified and

Director, Ceotre for Remote

GARRY E. HUNT

Sensing

YOLANDE SMITH

nor have a monopoly on SSP knowledge nor does IRB. Incidentally, the problem of the eight-week average is not solved by Shumwari Associates

extending to 12 weeks. It is neces-

LETTERS

should be questioned.

Video-based storage

I READ with some concern the flexible and can handle a wide article "Viden-based storage on the way from Marconi" (Computer Weekly, May 5). It was written about a lecture that I gave to the IBM Computer Users' Association and has unfortunately several erapide and can handle a wide range of data range. rors in it.

The device that we have now further information on the device may be obtained directly from my-self. produced works in conjunction with standard video tape equip-ment and not with video disc, as suggested in the article. We are thinking of video disc, but we have to walk before we run. Imperial College of Selence and Technology

This device we are working on is capable of storing 10 to 11 bits of information digitally on a one-hour video tape. Without any error in coding we currently have a dropout rate of 1 in 10. The system is

Dispute was with ITT

YOUR Racal and Rixon piece (Computer Weekly April 2), con-tained an inaccurate and mislead-ing footnote about Format Communications and STC.

Format Communications was in fact, in dispute with ITT Com

mercial Cable Company over the 900 ADX — not with STC.

ITT Commercial Cable Company is part of ITT and is not part of STC. You will appreciate, therefore, that your report is incor BOB HARRAP

Public Relationa Monage STC Business Systems Hollingbury Brighton.

Technological confusion

YOUR front page article (Compa

to Weskly, April 21) illustrates the computer world's latest hit of technological confusion.

We gather that Nixdorf has announced "the world's first comportially available artificial intelli-

gence system

Extremely thin on the ground as auch products may ba; in fact a real Al product has been ovailable. for a number of years in the US: Intellect, a natural language query system from Artificial Intelligence Corporation.

DAVID FERRIS San Francisco

Wrong writer

WITH reference to the article Why Unix has become the industry's big talking point (Computer Weskly, May 12) we should like to point out that this article has been attributed to the wrong author.

The name of the correct author is Mick Balley, who had put a considerable amount of effort and research into the article. I would appear to the article.

search into the srticle. I would appreciate it if you could apologise thim.

MIKE BRINSFORD Marketing director

Data Logie London NW2 Editor's note: Our apologies!

Guild of Practitioners

I AM writing about some of the errors (Computer Weekly, May 12) reported in your article "New guilds after young members". I Penny that I have not write the errors of the assume you mean the National Computing Centre when you mention the National Commuting Council and it would perhaps bave been betrer and more correct is your reporter had quoted Patrick Raymont, the manager of the NCC's Education and Training Strategy Group, who was present at the launching of the Guild, rather than George Penny who was nor, because Raymoni warmly Loodon NWI

Penny that I have not written or spoken to him that, "we are co-operating with the Council in training"; nor have I made the

comment to anyone else. I would be grateful if you would publish this correction

Secretary General The Guild of Computer

'A serious competitor

MFlops. All these are 32-bit, and cle by Philip Hunter (Computer Weekly, May 19) regarding the Profile of Floating Point Systems. He states that FPS has no serious for 64-bit accuracy there is the MAP 6400 With sales of over \$10m a year and rapidly increasing I would consider that FPS does have a

I would dispure this statement

as the UK distributor for CSPI. CSPI has an extensive range of army processors starting with the recently released Mini Map which is o 7 MFIup AP through to the MAP 400 which operates at 24

Manager, CSPI Products Burgess Hill

A funny thing . . . Misleading

I AM in the process of preparing some material relating to the uses and abuses of microcomputers generally and to the erazy things they say in microcomputer manuals specifically. If any of your readers has a relevant funny story or can point to specific instances o gobbledygook in manuals I'd be delighted to hear from them. The ratio of profits to turnover

MICHAEL THORNE

YOUR headline "Olivetu boss sees first slide in profits" (Computer Weekly, May 12), is totally mialeading. Our group net profits are in fact up by over 7%, which hardly represents a "slide in profita".

> is lower, as you correctly state, but this fact has been misinterpreted by the writer in this headline. DAVID MARONI

Director of External Relation Olivetti London SW15

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Jermyn Industries. Tel: 0732 450144

No! Not another one IT'S not often that I feel sorry for ministration."

DOWNTIME !

S not often that I teel sorry for litticians. Those who want to field great power are obviously egalomaniae and deserve all they at the barest hint of relief in the Minister's eye as he pulled the ceremonial cord. Does he worry about balon reincarrated after the politicians. Those who want to wheld great power are obviously megalontaniae and deserve all they

twinge of sympathy for our very about being reincarnated after the own Ken Baker last week. Officially declaring a new robotics centre open, he quipped: "This is positively the last plaque to be unveiled in the course of this ad-

New ways to waste money

Golden name

the name of just such a company.

The name of the company?

Liveware

File

VIDEOGAMBLING could be one of the first widespread uses of teletex, declares a well-known US consulting firm. As a bait to get with a keypad, and then watch the people to use more serious services with a keypad, and then watch the sporting event at home," says the like teleshopping, the firm proposes In a report as thick as my posses In a report as thick as my posses In a report as thick as my plemented.

The great joy is that you will be able to gamble seconds before the plemented.

The US firm has a name for this containing in a bath while the adverted has a containing in a bath while the design and filter, but unaccountably missed the destination on their home the Apollo moon programme after a hard day at the office than a soothing hot bath? Micro manufacturer Epson would have us be levent.

The US firm has a name for this and the containing the constraint of the Apollo moon programme after a hard day at the office than a soothing hot bath? Micro manufacturer Epson would have us be levent.

The US firm has a name for this approach the Apollo moon programme the Apol

"Consumers could receive gamThe US firm has a name for this working on one of their dinky little

THAT repository of all knowledge, the International Directory of Software, takes pride of place (and not a little space) on the desks of the computer industry. Racit year, a major software company takes a not interpensive advertisement on the front cover!

Lovingly embossed in gold on the front of the 1983-84 edition is the name of just such a company.

SO A ROBOT GAVE

...2239d4A

THE GRADUATION

micros is, if its colour supplement

... AT A US TECHNICAL

COLLEGE ...

Authority has decreed the Epson safe for use in the bath. The ruling i follows a complaint that the electrical what-nots inside the

HOW WILL WE HIT

BACK IN 1984?

ads are anything to go by.
You will be pleased to learn that the Advertising Standards and grahbed the micro instead.
Rut the ASA save the only ri micro might blow an executive to pieces as he fumhled for the soap

But the ASA says the only risk involved is if the machine should fall into the bath while connected to the mains.

SUPREME CHAMAON AT CRUFT'S -

K9 OF TARDIS"?

But perhaps IBM employers at too well trained to talk with the mouths full.

Moon man checks on Nostradamus

PROPHETS and astrologers are allowed to get away with their arrant nonsense because nobody who believes in them Is too interested in checking the astronomic place events against an astronomic place events against an astronomi-cal clock based on the alignment of checking the accuracy of their predletions. And non-helievers the planets, and not against our calendar. Yet no one had bothered have better things to do.

The predictions of 16th century

Prench astrologer Nostradamus to calculate accurately when these

French astrologer Nostradamus have certainly been given remarkshie freedom from rigour. He has been credited with predicting the catastrophes of Marx and Hitler, but unaccountably missed the de-

shouts.

1999, but in 3797, giving another I,814 years of civilisation.

Just as well because I have another 986 years to run on the lease for my house. Don't be a noisy eater

ON the wall of the conferent room at IBM's Wigmore Sunt offices is a sign which warm of ployees of the dangers of low talk. "WARNING, THIS ROOM talk." IS NOT SOUNDPROOPED

Industrial spies can walk the corridors in vain, for no 1BM reployee would dare spill the bear about the forthcoming scrapping of MVS/XA in an unsoundprotes.

No such sign is effixed to the canteen wall, however, so the spet gathered together for a consoling cup of tee may well discover when they are after from lunching execu-

LAST September Jane Atherton became the first woman to take a Tops computer technology course at the Control Data Institute in at the Control Data Institute in Manchester. Six months later she finished the course, and walked straight into a job as microcomputer maintenance engineer at Unilever subsidiary UCSL

Athertun dismisses as myth the common belief that a Tops course is just a holiday from the dole

queue.
"Six got jobs before the course ended," she says. And several others among the remaining 12

The Tops training was ideal pre-

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ducts that can make your

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it faster. Do it cheaper. Or

just do it better. And you'll

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100 vendors demonstrating

all the latest DEC-compatible

products. You won't have to

sort through irrelevant prod-

ucts because everything ap-

plies to your DEC computer.

computing as an operator," she says. Atherton spent four years in operations at the Science and Engineering Research Council, Daresbury, on IBM and Cray machines, after taking an HNC in computer studies.

Sn why the Tops course? "i wanted to change to engioeering,"
she replies. Having discovered a
marked distaste for programming,
except at the machine level, hardware maintenance was the ob-

She has so far sailed through her are given enough encouragement the course.



ATHERTON . . . "No discrimination against first woman."

work on microcomputers at UCSL. "But I have only had the easier jobs so far," she says — mainly printer problems.

"it is most often the mechanical things like printers and disc drives that an ureas a veryone else."

"Che believes the curse has into to do this sort of thing.

"Certainly, when I was st school this kind of activity was never suggested. But during the course i felt no discrimination, i am sure i was treated the same as everyone else."

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things like printers and disc three that go wrong," says A therton.

She felt no discrimination against her as the first woman on its policy of inviting companies to interview Tops candidates during

PLUS

A CONFERENCE

ON THE

COMMERCIAL

SCIENTIFIC AND

INDUSTRIAL

USES OF

DEC COMPUTERS

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around the company, doubting the wisdom of using his services — users were fed up with the late it's difficult to imagine an insurance company operating today without the use of sophisticated computing technology. And this company was no exception. It ran an installation of sizesble iCL 2900s at headquarters likely and the company was the company was not exception. DEXPO COMES TO EUROPE 2900s at headquarters, linked to an extensive network of RJE terminals in branch officea sround the country. The mainframe site

So why was the department su bad at estimating development costs and timescales?

Consultant's Casebook

opinion on

Get a second

those estimates

A new development for the sutomatic generation of renewol notices for its esr insurance business had just been debvered. While the development was installed on time, the final bill was 210% of the original estimatel

A replacement system for house and home contents insurance business had been scheduled for delivery that month. The implementarion had been postponed for five months, and the original cost estimate increased by nearly half. Since this project was already a sixfigure development, and critical to the department's plans for expan-sion, the information services function was quickly losing

We found that the fundamental problem was related to the point at which estimates were prepared and firmed-up.

The company quite rightly insisted on value for money from its computing function. It therefore required a clear definition of potential costs and benefits before embarking on any marking the costs. embarking on any major new de-velopment. So far, so good.

What tended to bappen, bowever, was that a great desi of estimating effort went into the initial feasibility or pre-feasibility phases of the project. These phases would often include very detailed project cost snalysis and evaluation. Thereafter, however, these estimates were not subject to regular critical review — only at postlar critical review - only at post-

vices department's performance on a further half-dozen major promg the information ser-

PUZZLER

from one side to the other.

credibility suffers severely when It overruns project cost and time esti-mates. Future developments may be placed in jeopardy if users have no confidence in the eatimates they similar pattern of poor estimate it was just unfortunate that a renewal notice system and to home cootents system and to hope and his the heading The bead of information services of a well-known insurance simultaneously.

Projects were generally company had asked us to perform livered two to three months in and with an average cost orem of 35%. a review of his department's project estimating methods. He had

had two nasty scares in the recent had two nasty scares in the recent
past, and wanted to svoid any repest performances. Furthermore
estimation process in the recent
that the department should link pest performances. Furthermore he had detected dark mutterings estimation process to each of it established checkpoints within it development cycle. it should jut a firm quote for the work, cost at time of the phase about to be a

> An occasional series by John Simpson

dertaken (snalysis, design, ca atruction, etc). it should at it same time give an up-to-date ca mate of the cost and time involve in the totality of the project. There was clearly also an educ

tion programme to be mounted in the user organisations. Both the boasted an impressive stray of technology, and the latest database and online development bells and budget overruns brought to or strention had been caused prime ily by changes to the original project specifications. In the case if the renewal motice system the user changes had been extense and very late in the day.

So users had to be made non aware of their responsibility in the develupment process. Systa changes requested by them would have to be costed and approved by a project monager on a case-by-

case basis.

Otherwise the computing people would contract to deliver as set or in the various checkpoint decrinents prepared throughout the

Further, we recommended the establishment of estimate revisionics, within the Information to vices department. There is only like a fresh pair of eyes from a ubjective observer to flod potentifaulta in even the most rigorous detailed project estimates. Project leaders should present the ner phase estimates and total project timetobles and coats to a body a peers, prior to managerial scrutist and publication.

Our recommendations were willingly sccepted by the informa-tion services function. It took I little longer to persusde the used departments, who suspected the IS might be trying to pull a fail

vices ran a couple of user seminan to explain his system development guidelines, and the points at which estimates would in future be prepared and updated. This commonsense approach has paid distinct, have begun to appreciate his intrinsician of communicate systems de intricacles of computer systems of

for the solution?

slipping away IN February 1982 the government made its most drastic move in an attempt to liberalise the telecommunications director Peter munications industry in Britain. It Cott, both of whom joined from the supplied by microwave. The full "figure of eight" network should be completed by the end of 1985. attempt to liberalise the telecom-munications industry in Britain. It communications service in Europe.

The aim of Mereury was simple: to cream off the top 300 or so companies from British Telecom's customer list. The government was alming for a minimal of the companies alming for a minimal of the companies of the world's largest teleprocessing the world's largest teleprocessing network operator, Geisco.

Evans also because of the company Cable & Wireless, and the computer services experience of sales director Stuart Bailey, who joined last year from the world's largest teleprocessing network operator, Geisco. tomer list. The government was alming for a viable, if not

deadlines are

Why Mercury's

background of service with the UK's only other public network operators, British Telecom and

successful, alternative communications system to British Telecom
before the election.

Bot although the aims were
simple the execution has certainly
not been so. As well as technical
problems Mercury has faced union But to date the three owners of Mercury — British Petroleum, Cable and Wireless and Barclays Merchant Bank — have put £60 million into the venture, and have seen most of their deadlines for the opposition, legal wranglings and an unexpectedly aggressive British company slipping away.

The first London service should Telecom, as well as a rather em-barrassing lack of customers.

have been operational in April, using microwave point-to-point dedicated links between custom-ers. That service has already started between some cuatomers, but of the five dishes and nodes necessary to operate the system in the London area only one is in place, on Britannic House in Moor Lane, the beadquarters of British Petroleum.

Then comes the problem of interconnecting the service into the BT network. The initial interconnect that Mercury and BT have agreed is for a level one connection between the main network and the PABX in Mercury's Longacre office. That connection, similar to the private connections between large offices in the same firm, will have to be made by BT. The Post Office Bugineering Union's mili-tant London North Central branch, which covers the Long-acre site, has said if will not make

The POEU has been waiting more than two months for the instruction to make the connection, but the hold-up appears to be on Mercury's side, not BT's, and the problem appears to be with the PABX. According to a Mercury cury lines to the PABX is ob-viously not as simple as connecting an ordinary PABX up, and we have run into a technical delay. We're now waiting for some printed circuit boards to arrive, and when that happens we assume

Once all that is sorted out Mercury has to organise its truck network. At the beginning of April the company invited tenders for a £20 million contract to supply and install a non-mode optical fibre trunk network. That enquiry was for 630 kilometres of fibre for an initial network that should be in place by the end of 1984.

The network will be in a "figure of three," including London, Birmingham, Leeds, Manchester and Bristol. The missing links between Bristol and Birmingham and Birmingham and the North-east will

TELECONS

Britain's beleaguered private telecoms network faces a hard battle if the Tories return to power, says Della Bradshaw

will be placed or when the work will begin on the trunk network, but Mercury says it has told potential suppliers that it is "a matter of

Once the order is placed Mercury still has to complete negotiations with the British Railways Board for the use of BR waylesves to carry the cables. Negotiations there have been held up by the Inland Revenue, over the land development tax. Any landowner making profits out of his land gets taxed on it, but to date no-one has taxed on it, but to date no-one has determined whether that law is applicable to wayleaves.

If it is applicable, the implica-tions for the cabling of the UK, as laid down by the recent White Paper on cable television, are enor-

mous.

The implications for Mercury could be vital, too: If British Rail becomes liable for the tax then it would pass the expense on to Mer-cury. How much that tax could be is a matter of pure guesswork, but it could have a distinct influence on any future plans Mereury makes regarding laying cables. British Rail is, needless to say, enthusiastic about the possibilities

of rending out the wayleaves to Mercury – It made a loss of £174 million last year. Once the wayleaves are put to use by Mercury then comes the problem of who actually maintains the cables. The National Union of Railway-

men (NUR) has what it calls a "two-pronged attack" — firstly it

Mercury fails to take wing - despite the telecoms experience of chief executive Derek Bvans (centre), technical director Peter Cott (right) and sales director Stuart Bailey. However, even if Mercury can get the whole thing together and operational by 1984 it still has to the cheap — the cable operators will stand the finance for the ducta and initial cabling and give Mer-

and initial cabling and give Mercury access to an almost readymade system.

If the White Paper does become law as it stands that could give Mercury a local telephone network by about 1986 at the earliest.

But is the manning Mercury

But in the meantime Mercury still has to find some way of mak-ing the local links in its network. The simplest way of doing that would be to lease lines from BT,

its only competitor.

Another option would be to lease ducts in the ground from other types of companies, such as London Transport. The commu-

Mercury's hardest battle could come if the present government is returned at the June 9 election. That could herald the beginning of more competition for Mercury in the form of

agrees with the TUC and the nications company has already PORU in objecting to Mercury per reached some sort of agreement to reached some sort of agreement to use the Circle Line of the Uns, but as a union spokesman put it: "If Mercury cables are laid on British Rail property then we want to do the maintenance." derground to carry cables, and is certainly looking at other options, such as the old tram lines in Lonto do the maintenance

The next problem for Mercury is to make the local links, between the Mereury network and the customers' offices, at some sort of reasonable price: Mercury is al-ready spending about £20 million for the installation of a 1,000 kilo-metre trunk network, and local lines are considerably more expensive. In the long term it looks as if the cable television White Paper has given Mercury its first break, as it gives BT and Mercury exclusive rights to provide voice telephony services on local cable

greater than Mercury's network.
Mercury's original aim to provide high volume voice and data connections for large organisations licences for several more private telecommunications carriers pales in comparison. So far Mercury has been totally non-committal about how many

> Then there are the International lines. The Littlechild Report, published in February, recommended that Mercury should compete on an equal footing with BT in providing international services. To date Mercury's moves towards an International link bave involved placing an order for one Type C earthstation with Marconi, which At a rough estimate the require-ment for dedicated lines is less than 4% of the £5 billion UK telecommunications network busiis intended to connect Mercury's UK customers to business centres in North America by 1984. ness, and not all those are in the

London area

telephony services on local cable

The earthstation is to be in the Many customers are also probsystems.

London Docklands area, and Merably waiting until Mercury is connected to BT via a third level
get a local telephone network on the Port of London Authority. connection, which will give access

through the public network into and out of the private network. complete negotiations for the use of international satellites. Those 1985 at the earliest.

Until that time the connections will only be through leased lines.
Another problem for Mercury is a geographical one. The proposed negotiations are ongoing at the mo-ment between Mercury and, ment between Mercury and, needless to say BT.

Once all the technical and legal problems are solved Mercury still has to face basic commercial problems. The first of these is its one competitor, BT, which, since the formation of Mercury, has surprised everyone with its sudden flurry of business services — Klostream and MegaStream, Pscket Switched Swatenes and its more retrunk network goes no further North than Leeds, which cuts off a

North than Leeds, which cuts off a lot of companiea, particularly those in the North-east. If Mercury is aiming for the top companies then it has to go for government offices — the government spends over £200 million a year on telecommunications. But several of the biggest government departof the higgest government depart-ments, notably the Driving Licence Centre in Swansea, are Switched Systems and its more recent collaboration with Pactel to provide an international consuloutside the proposed Mereury nettancy service for international customers are but a few. BT's National Networks is also install-ing digital services over an area far One area in which Mercury

looks ilke having some commercial success is cable television. It has already signed a non-exclusive agreement with Thorn EMI to use the Mereury trunk network for moving EMI's programmes operators. That could be the firs of many agreements, as only Mer-cury and BT bave the authority to customers there are actually signed up. Estimates range from two to s interconnect local cable television dozen or so. Should the worst networks. come to the worst the government That said, there is no doubt it i

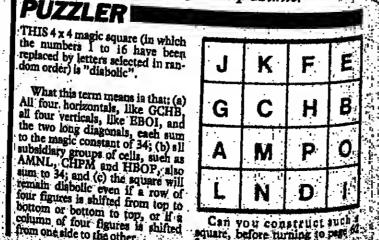
could pressurise both government departments and nationalised ingoing to be an uphill struggle for the private network. The three companies, Cable and Wireless, Barclays Merchant Bank and BP, dustries into taking up the private network. Both are thought to bave are committed to an investment of £250 million over the next fiv years, and returns from that, a to be that there are simply not enough companies which want the sort of service that Mercury offers. with all telecommunications-re lated projects, will be some time in coming.

But Mercury's hardest battle

could come if the present government is returned at the June 9 elec tion. That could herald the begin ning of more competition for Mercury in the form of licences for several more private telecommun · canons carriers.

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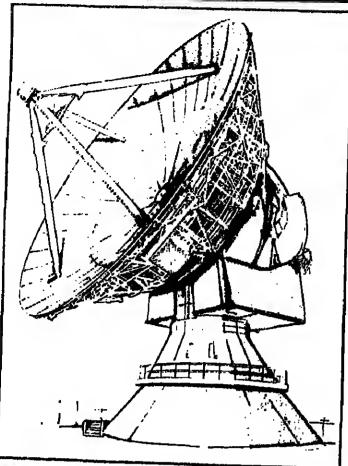
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The new firm's credeotials



Changing face of the American skyline

The telecommunications business is in a state of flux throughout the United States . . . Howard Karten reports the latest developments

FOR many years, one of the prominent featurea in the akyline of major American cities has been Unlike the mainstream computation.

of significant inner change in the telecommunications business, and will no doubt propagate at a growing pace in coming years and

the veritable forest of antennae on ter industry, it's even uncertain the roofs. The latest addition are whether real data communication

the roots. The latest accition are the 10-, five-, and even three-meter receiving dishes, aimed just above the horizon.

The dishes are the outward signs of significant inner change in the telescommunications business and distance connection company and connection connect

months.

Predicting the future of telecoms in the US these days is a tricky venture. The entire business is in a state of flux, caused as much by changes in the regulatory

The general consensus is that phone bills will rise, since a good deal of the cost of data communications systems is in the "last mile"—the cost of the local loop, as well as the concentrators,

could raise rates significantly.
Uotil recently, Management Information Systems (MIS) directors have bad few real alternatives to choose from in data communicotions. But as costs go up and com-petition develops, heavy data com-

Some facts of data communications life are obvious. More and more, the trend is to transmit information of all kinds digitally secessible from more than 20%

and so on.

Equally obvious is that X.25 has become the ds facto standard for data communications. Virtually every America major hardware buttering game.

multiplexera, and other hardware at the sending ond receiving ends

setts, and former presidentally Beronek and Newman informer

inanagement company, so siding of BB&N in Cambridge "I expect that the number

munication shops can be expected to turn a sharper eye towards alternatives and cost-cutting methods.

It is also safe to say that despite its mammoth size — dwarfing most other American companies in oumber of employees, book value, revenues, earnings, and so on — AT&T by no means has a lock on the future.

Telenet and Tymnet have been operating for nearly a test it is only in the past years in that Telenet has begun to the profit, despite the fact that major time-sharing companies information providers, such as the profit of the past years and years a Telenet and Tymnet have ke up to Telenet for some time.
In addition, in the past per

Users of Telenet and 'fymnet's public network tend to be relati-Telenet appears to have ber vely low-volume users. Large companies whose usage of Telenet and Tymnet grows over time even-tually find their costs are such that formation of all kinds digitally
Thus, conversion of television and
audio signals into digital is increasing, more and more vendors
are coming out with digital PBXs,
new factories and offices are being
wired for data communication,

and a processible from more than 200;
ties via local phone call, and photo extend the number acon.

Telenet hos recently sign some major accounts — one of them IBM, for its IBM Information Network — and appearance of the processible from more than 200;
ties via local phone call, and photo extend the number acon.

Telenet hos recently sign some major accounts — one of the processible from more than 200;
to extend the number acon.

Telenet hos recently sign some major accounts — one of the processible from more than 200;
to extend the number acon.

Telenet hos recently sign some major accounts — one of the processible from more than 200;
to extend the number acon. they could more profitably invest in building their own networks. And when they begin moving large volumes of data over public networks, large firms - typically, Portune 500 companies, as well as large banks and insurance com-

panies - tend to start worrying about things such as reliability and "The average Forrune 100 company has an average of five-and-a half networks, made up of mo-dems, multiplexers, and so on," observed Chuck Steln, vice-presi-

Moreover, news reports suggest

deep anxiety within AT&f'a

ranks, as employees ponder the

brave new worlds of competition,

high technology, which branch of newly-splintered AT&T 10 work

"AT&T knows every circuit everyone is using. It can visit a customer and work up a perfect financial case," notes consultant

McQuillan.
With its vast employee pool and prestige, AT&T should have no

trouble locating and hiring

the company and from competi-

for, and so on. But AT&T is highly akilled.

circuit everyone uses' packet-switched systems and dent of Bolt, Beranek and Mewman. "The concern of the Newman. "The concern of the Fortune 100 DP director is that nicate with, for example, a satellite base atation, says McQuillan. he's been focusing his coocern on uoos, and his data communica-

Changing face of the American skyline-from page 18

'AT&T knows every

This would eliminate the costly local loop charges. At present the Federal Commu-

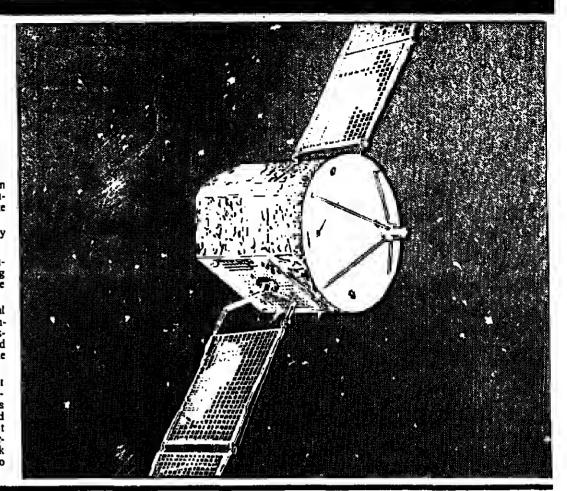
tions bill is rising. That's when he calls in a consultant to analyse the nications Commission is reviewing And when the consultant arrives, what a plethora of choices he proposals. has. Telenet and Tymnet both sell

This does not necessarily signal private packet-switched networks. that the multiplexer and concenas well as providing public service:

BB&N configurea networks for clients, buying lines from a common carrier and selling its

mon carrier and selling its ter, but not all locations will lend specialised telecommunications

"Those husinesses will co-exist (with other forms of telecommunierent manufacturers' hardware cations) for o long time," predicts BB&N's Stein. "Large, dispersed organisations are finding that found in most large companies; satellite firms such as Cylix Com-munications Corp, now o sub-sidiary of RCA offers medium- to they've been ignoring the impor-tance of communication. I think high-speed data communications via satellite; specialised commun that means this business is about to carriers, such as SP Communica-tions, MCI, and others, compete with AT&T in long-distance com-



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ouse, Northwood Hilis

esex, FIA6 ITS, UK,

Can AT&T adapt to competition?

LARGE companies have often been compared to ships — both, goes the analogy, can chaoge direction, but it takes much longer to do it with a big boat. In the case of AT&T, the big question is, can the company sdapt to competition after years of more gentlement of the Justico Department anti-trust case against AT&T is instructive here. For years, the company

here. For years, the company favourable terms for an ould court settlement, those two as monts vanished oversight.

vendor bas supported X.25 for some time, with IBM coming into

some time, with IBM coming into the fold fairly recently.

However, the media or method by which X.25 will be transmitted seems poised on the edge of a major change. There are signs that the telephone company may lose its traditional moo opoly on supplying the local loop which has hitherto been the only doorway into the national telephone system.

The company or companies that The company or companies that will emerge as market leaders re-

switching. GTE Teleoet, a sub-sidiary of Greenwich, Connecticutbased GTE (formerly General Telephone and Electronics), and Tymnet, a subsidiary of Cupertino, California-based Tymshare, are the two firms operating the largest public packet-switched o etworks.

Bolt, Beranek and Newman communications company, which designed Arpanet, the world's first packet switching network (and which still has a strong hand in running and enhancing Arpanet), is a leader in communications consulting and setting up communications. sulting and setting up communica-tions octworks for companies and

Things have got incredibly confusing because of deregulation and divestiture (of the local AT&T operating companies), and the number of options has opened up enormously, notes John McQuillan, president of McQuillan Conaliting to Cambridge, Massachu-

Telenet and Tymnet also a private packet-switched network for large users to seek lacrost privacy over the public network run by these carriers. Tymal smaller than Telenet and mid more a captive of parent compart Tymshare, maintains a low profit

Both firms, as well as old smaller public value-added at works, might understandably " The company or companies that will emerge as market leaders remain to be determined.

Currently three names emerge as pre-eminent in packet switching, GTE Teleoet, a subsidiary of Greenwich, Connecticut-based GTP (Companies that work) offering, Also NBT 1000, running hard to calculate the service to be offered by American Bell, the unregulated AT&T so the service to be offered by American Service to be offered

In addition to carrying data tween two or more points, Ally NET 1000 will also perform the processing of that data, range from mere prolocol translation. full-scale data massaging in and cations such as order entry, in the officials of Telenet, Tymat, and the others teod to put a horn

face on their public appearance This may or may not be ment whistling in the dark. On the tell hand, AT&T employees are unto moving at a more stately profinding new ways to use (and it seil) older, more familiar tell nology. This could put AT&Tais disadvantage in the selectors if disadvantage as its salesfore tempt to compete with Telential Tymnet. Additionally, Telential

and Tymnet have a deeper rest Continued on page 19

Making a packet from switching

PACKET SWITCHING has its origins in a military research project begun more than a decade ago. DARPA, the Defence Advanced Research Projects Agency (part of the Department of Defence), sought a method of transmitting data in a more secure manner. A secondary motivation was to develop a communications network which would be capable of operating even if a part of it were destroyed. operating even if a part of it were destroyed.

The increased security was to come about by transmitting a message in parts, each part taking a separate traosmission path. Survivability was to be obtained to the literature control of by eliminating central control of the network, by making nodes in-dependent of one another. The final product, produced by Bolt, Beranck and Newman, was called

Arpanet today connects universities, defence installations, and research facilities across the US. In addition, there are codes in the UK, Norway, and other much-needed (and certainly

countries. Like many other military projects, this one was seen to have application in the civilian sector without compromising the mili-tary effort. This civilianisation tary effort. This civilianisation
was termed packet switching, and
bas found widespread — If not
necessarily profitable — use in
the data processing world today.
The public packet-switched
market today is usually estimated

at somewhere between \$200 and \$250 million. Market observers predict growth ranging from 30 to 50% a year for the next few years

Some soalysts predict that when American Bell's AIS/NET 1000 officially goes online in Sep-tember it will provide a big boost to the entire business.

Five US firms are now particu- oriented larly well-known for their public, aton.

processor to interconnect the dif-

munications, and the latest de-

velopment in telecommunication cellular telephone service, cou

well be the development that e minates the costly "last mile"

Cellular telephone service d vides a service area into contiguou

circles. Relatively low-powered

The largest of these, in size, use, and public recognition, is GTE Telenct, which has recently begun to produce a prufit. It connects a large number of com-mercial database producers, and has nodes in virtually every large US city. Like the others, Telenet lesse

high-speed telecommunications lince from AT&T as well as other

For a long time, GTB Telenet was something of a commercial curiosity. An early entrant with a good record of service and reliamuch talked-of) service, it was nevertheless unprofitable. In the past year or so, GTE Telenet bas apparently begun to seek out cus-

omers more aggressively.
Telenet, with the largest man ket abare, connects a particularly diverse group of hosts: Interac-tive computers, database pro-viders, electronic mall users, and

Next largest is Tymsbare, which ic especially heavy with conventional time-sbaring computers as well as database pro-

Uninct bas a large percentage of remote lob antry users, while Autonet is heavily into time sharing. Graphnet, the smallest, most receot entry, is particularly Our field maintenance is not like burying your head in the sand...

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Central role for PDX in in-house networking

Hedley Voysey takes a look at the digital private branch exchange

suppliers, with a long history of exchange supply, have always maintained that the digital private branch exchange will be one of the prime means of in-bouse networking. These firms have a vested interest in buyers of the PDX (as the private branch exchange in digital form is generally referred to) regarding it as the hub of many data forms of communication as well as

grown amoog networking

Gary Christensen, vice-president for development et Network Systems Corp, said in London recently: "The PDX will be very important to many users and oumerically, probably the largest slice of users for data attachments." has no axe to grind bere as the three tiers of interconnection it is

engaged in slotting into place in the networks of the world are neatly arranged to buttress several forms of network design.

The fast Datapipe slotted pipeline runs at 275 megebits per second and is aimed at clustering the mast countril computers in

the most powerful computers in the world together.

The standard Hyperchannel at 50 megablts per secood links mixed supplier hosts, tidies up peripheral subsystems and geoer-ally makes back-up sites a reality where the PDX comes in is to

filling out the user area.

What NSC sees as happening is that its Hyperbus local bus structure will have a backbone lane. The side streets on one side may also be 10 megabits per second Hyperbus links, but on the "other side of the street" will very likely lie a Wangnet or a PDX.

likely lie a Wangnet or a PDX. Very ofteo, according to Christensen, it will be a PDX.
Andre Schwager, Hewlett-Packard's head of the Information Systems Network Division is even more positive. He said: "Hewlett-Packard bas committed itself to the use of the PDX as the principal communications method for its future computer octworks for the office."

A development schedule is un-der way which will ensure that ex-changes from Roim, Northern Telecom and Intecom will be usable to access H-P 3000 compu-

Datapoint is also focusing work on connecting up to PDX in its future forms, and in France Thomson-CSF is setting out a strategy and product introductioo plan which makes digital exchanges for in-bouse use an essential part of octworks for office automation.

And so the roll-call goes oo with the obvious listing of major ex-change suppliers, but now with almost equal clout being exercised by computer companies and oet-working specialists.

The degree of conviction varies however. John Weeks of CAP's for database queries, messaging systems and the noo-file transfer kind of traffic will often be routed through the PDK is pretty high, but heavier flows of data are another matter." od that bursty traffic

have to have some priority to put them over the top of data traffic.

There are plenty of schemes for doing this kind of streaming, but they all have one masty point is common - they ruin the spleads simplicity which is at the heart of both Ethernet and ring type loss area octworks.

The wide area networks are to minated by complex issues sod the bope has always been that they complexities could be avoided a the management of local area ne-

These hopea are beginning to

It is interesting to reflect that much of this flurry of network de-sign to back up office automation has aimed to replace some very primitive, but useful systems based on atraightforward digits awitches. The Micom switch which comes in several forms simply provided the user of a terminal with a way of dialling up a port among a mix of computers connected to the switch.

The whole idea is erude and if there are very large combinations

The PDX will be very important to many users and numerically, probably the largest slice of users for data sttachments.

of both ports end termicals, the cost sets out of hand when com-pared to the cost of establishing s

more formal network design.

The advantage of establishing a more formal network design is that policies for handling overloads are ereated and the regulation pro-duced is on hand to process errors and certain failures on the part of subsidiary portions of the re-sources in the exchange or net-

The exchange as a manager must try to keep mailboxes open a long as it is in some working shape, but many other optional services can be regarded in the same way as cooventional operat-ing systems regard processes of that is to say they can be created and then made to disappear to evoid eluitering up the place when there is oo demand for a particular

The overhead for doing this can be offset to the extent that this enables the services to be modified interfering visibly with users' rights and expectations.

It is oot obvious how the oext crop of PDX products is going to pltch itself as between the crude simplicity of the basic data switch linking any terminal to any port, and the extreme concepts advocated in digital exchange design which turn is a property of the concepts another matter."

Mixing voice and data across digital links is not easy. At the incal area network end of the business a low speed version of Rithernet running at 3 megabits per second has shown a capability for handling 35 conversations without severe loss of quality, and maybe more if better "vocoders" are used.

Many more studies into the use of full speed (10 megabits per second) Rithernet are being pursued and the sustainable mix of voice and data traffic will eventually emerge. Part of the problem that woice side of the sustainable in the voice side of the sustainable in the voice side of the case of the problem of the woice packets may overloading by file transfer traffic overloading by file transfer traffic.

Varsities told to bring their networks into line

Donald Kennett examines the urgent task facing UK universities

search bodies are faced with the them. urgent need to rationalise their networking arrangements. That message has been hrought home by the upsurge over the last year in

Fortunately, this need coincides with the fruition of a number of projects designed to help unify the various different types of communication links currently in use, and also designed to extend their capapilities to support new applica-

The projects were initiated by the Joint Network Team, set up in 1979 to plan a detailed programme for a cost-saving approach to developing the communications facilities being paid for by the De-partment of Education and

Science.
The JNT decided early on that there was little point in rushing to provide simplified basic mechan-isms for interconnecting different computers while there were no standard protocols available to sioned more than 40 development projects for bardware and software to interface the various compo-

UK UNIVERSITIES and re- and to the devices that would use levels and would have made cost

From an initial consideration of the problems of wide area net-working, between individual universities and major computing centres, the JNT found itself coners were decentralised into the various university departments and research establishment

Inboratories.
The pruposed unified network has been made the responsibility of a Network Management Commit-tice set up in 1981, whose first finding was that there was wide-apread opposition among the auto-nomy-minded academics to the ides of a single new private net-

This was to have provided the most cost-effective solution, but the users succeeded in justifying the various ad hoe links they have continued to set up for specialised purposes and woo their argument The committee also considered

wholessle traosfer to British Telecom's Packet SwitchStream, which would have cost at least £1 million a year at current traffic

control very tricky. Further alter-native public network solutions that had been proposed turned out to consist of no more than different

ways of paying for PSS usage. Pressure from users also arose in the form of an interest in imple-menting Ethernet buses fur local communications. The JNT responded to this by setting up a per-

The transfer to fully standsrdised networking

Ethemet and a Cambridge Ring, for which the JNT has been imple-menting various interfaces and

The lack of standards for these

equipment on which the standards are implemented. But it pre-sumably wants to avoid unnecessary duplication of development

from the community it exists to

eventually emerge as a British standard for it to be used with support.
The Team's report for last year cumments that the exploitation of the Cambridge Ring was held up

when internstional standards replace the interim ones should involve far less effort, becsuse the most difficult part will have been to build the layered srchitecture

higher level protocols since 1980.

interfaces and protocols has been a limitation on the use of both Camoridge Rings and Ethernet buses. The JNT's goal is ultimately to have the whole scademic community running on interoationally agreed standards for interfaces and various implementations of it. This was rectified last year when the JNT initiated a collaboration to produce a standard specification for Ring components designed to operate at 10 Mbits-per-second, called CR82. This has now been taken up by

by a lack of standardisation among

This work was carried out over 18 months by ICL and the Cambridge-based microcomputer netthe Department of Industry's Inworking company Orbis at s cost of nearly £243,000. formation Technology Standarda Unit, which is having it rewritten in the form required by the British Standards Institution for BS apeci-High-bandwidth local area networks such as the Cambridge Ring

are regarded as the type of facilit that will be considered essential in a few years. But until comprehensive standards are available for them, they will only be used where they can be supported by a lair amount of in-house development

This should start to change this year, with the arrival of devices such as terminal concentrators, bridges for connecting one Ring to another and software to support ers. The implementation of in terfaces up to the Transport Level should also make interim higher level protocols developed for X25 packet switched networks usabl

over Cambridge Rings as well. And the transfer to fully stan dardised networking when inter national standards replace the interim ones should involve far less ayered architecture nn which both are based into the operating systems of the networked proces-

The Dol's Focus committee un

document Intercept status in its

standards promotion programme for industry, which means that the document is to be regarded as close

enough to the form in which it will

fhe design is also to be de-

veloped to operste at 100 Mbps for

high-performance processor-to-

Of the £1.2 million worth of

contract development work that

was on the go at same time during last year, £435,000 was for projects connected with the Cambridge

access interface for minicomputers

processor intereunnection.

of the JN'I's £1.2 million deelonment expenditure. An early JN'I' decision was to recommend use of the interim UK protocols defined in a set of books of various colours enlicatively referred to as the Rainbow Books.

Firm specifications for these -they include file transfer, job ma-nipulation, terminal handling and electronic mail - and implemen-tations under different operating Ring.
The largest single project was the Mace (Modular Access Control Equipment) intelligent node designed to provide a direct memory transfer for minicomputers. systems have been emerging over the last two years. They have been progressively put to use in academic computer centres and now the JNT reports a widespread acceptance of their importance, and mainframes linking in at the where before there was misun Transport Level of the Open derstanding and scepticism.

Systems Interconnection model. last year has been reported from been asked to implement Rainbow Book protocols in tenders to

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New Part and the Mysterical States of States with the Company of t

access without causing delays. thanks to its simple one-handed To keep things simple, the inside knob allows free exit at مكاشالة security, management can

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Jobs threat as French
Thomson-CSF, until two years
again the name of the land the property of the land two years again the name of the land two years.

giving rise to incressing concern.

Thomson CSF, until two yesrs ago the most profitable offshoot of the Thursson Brandt group (which was ostionalised in 1982) with the four other major French industrial groups), and Compagnie Générale des Constructions Telephoniques (CGCT), bought from ITT after arduous negotiations, are now a heavy burden for their principal shareholder, the

Freoch taxpayer.
But Compagnie Generale d'Electricité continues to reap profits under State uwnerskip and, through its subsidiary ClT-Alca-tel, is scooping 30% of interna-tional urders for time division

switching exchanges.
TSS Alcatel, the US operation of the Alcatel which is based as Resini, Virginia, recently finished the main development of the II-10 system which has been specially designed to nicet American stan-

The first two E-10 exchanges are now starting up in the littlianupolis sren. Marketing will begin Ister this year among US independent

Georges Pebereau, chairman of

face mounting losses

rose 15.9% to FFr12,446 million
(£1.1 billion). Some 40% of this was accounted for by public telecommunications. The balance came from office automation and professional electronic aystems and

Exports rose by 50% to almost FFr5 billion. Profits are likely to come close to the 1981 level of

CIT-Alcatel has set up an Insh affillate, Ceanannus Mor (Alcatel Ireland) with a production facility in Bandon, County Cork. When it becomes fully operational, this plant will provide over 300 jobs. Telecommunications equipment in excellent performance reports to and electronic products for both

The first E-10 digital exchange has now been operating for 18 months at Ceanannus Mor. Others

Alcatel's cap is the signature of a set of costracts with the Indian government and Indian Telephone

CIT-Alcatel is supplying India with 200,000 digital electronic E-10 lines as well as trunk exchanges using the same technology. The first subscriber exchanges are now being installed at Bombay.

The agreement with I'II requires CIT-Alcate! to supply a factory with little to supply a factory.

ory with initial capacity of 500,000 lines and the relevant technology. The Prench firm has also undertaken to work with the Indians on development of a small capacity digital exchange specially

All this adds up to FFr2.5 bil-lion (£225 million) in revenue for CIT Alcatel. But, when a trunk exchanges factory also gets under way - as the French and the Indi-

CGCT's survival lies at the merey of a decision by the government. President Mitterand's at ministration must make up in mind whether the former American is to manufacture Transfer in the manufactur

can firm is to manufacture The son's MT 20-25 or CIT-Alcaent E-10 exchanges.

Chairman Pierre Lestrade, t senior official from the Fred Telecommunications Authors who was appointed to CGC the

nationalisation, says: "We wan

Lestrade is certainly relieved that Jean-Pierre Chevenement

Minister for Technology and ladustry, was dropped from the ga-ernment in a reshuffle in Mari.

Chevenement had been cam.

paigning to have CGCT swallowed

into a monolithic manufacturi

company, which he wanted to co

homson and CIT-Alcatel.

Téléphooes de France, with

Telecoma Minister Louis Mer-

andeau, who retains his portfelic

in the new government, persuade Mitterrand that both the French

Post Office and foreign buyer needed a choice of aupplier. Without competition, French skil and Ingenuity in devising new exchanges and other telecommunications.

But the problem of keeping CGCT's 8,600-strong labour force

profitably active remains. Their

France which are already the most

serious sufferers from unemployment: Paris, the North, the Cale

coastal strip and Brittany where the firm's main factories and laboratories are located.

Unleas French Telecom place orders on a big scale, CGCT will lose FFr250 million this year after a loss of FFr280 million in 1982.

CGCT accounts for 16% d French telephone exchange manu-

facture. It is puny compared with Thomson (40%) and CIT-Alcold

(44%). But the problem is particularly difficult to aclye because CGCT'a activities are focused on

outdated Pentaconta and Mets-

conta electro-incchanical ex-

Chairman Lestrade is urging the government to guarantee his con-

pany 16% of orders for new tech-

CGCT has developed its own Diginat aystem which can provide between three and 500 lines. It is

also working on a venture called Carthage, a new integrated tele communications and data network

commissioned by French Telecon

for a promising trial in Rennes, Britanny. If this local test

auccessful blg domestic and experi

Matra, Thomson, CIT-Alcate and CGCT are staking their hope

on the developing market for France's electronic telephone

directory. With Philips' French aubsidiary they look forward to

aharing a booming sales of domettic terminals in the US. But, with

300,000 terminals under order the

year by French Telecom - and 30

million by 1990 - the Minitel B

orders could follow.

brilllant

ogy producta, such as private automatic branch exchanges (PABX) in which Jeumont-Sch-neider is performing particularly:

products would slowly k

carions products would slow eroded, Mexandeau argued.

ers for sub-contracted work."

ana hope - the total deal could exceed FFr3.2 billion. Thomson-CSF has fared less well with its MT 20-25 exchanges. Development difficulties have deayed their entry into service both in France and abroad. But 3,600,000 MT transit and subscriber lines have now been cut over

The company forecasts a turnover of FFr3.5 billion (£320 million) from its public switching orders of which 40% will originate from export ordera.

MT 20-25 exchanges have been cut over in Atbens, Bogota, Bagh-dad, Amman, Apoquindo as well as in Aubervilliers, Amiens and Annecy for France's PTT.

The move from electromechanical exchange production to digital time-division unita has caused serious employment prob-lems for the French telecommuni-cationa industry. The new ex-changes require only one-fifth of the manufacturing manpower of the old type.

The slowness of the industrial breakthrough of Thomson-CSF'a MT 20-25 and the cost of shedding workers involved in making the previous generation of switching exchanges provide an explanation of the firm's parlous financial situation. For the past two years its losses, the first in its history, have been mounting alarmingly. But in spite of Thomson's prob-

lems, France has been marking up spectacular succeases in exports of telecommunication equipment at a time when its trade balance in electronics and computer products

has been deteriorating.

Sales of telecom items abroad rose to FFr6.4 billion between July 1981 and June 1982, confirming an upward trend which began in 1979. Total foreign asles for 1981 were FFr4.5 billion (£400).

The top contracts included Thomson order from Iroq for aupply of 30 MT 20-25 exchanges worth 850 million francs (£68 million) and the massive Indian contract won by CIT-Alcatel.

But booming export orders for time division exchanges provide as

time division exchanges provide no solace for Compagnic Générale des Constructiona Téléphoniques, the ITT aubsidiary for which the French government pald \$30 mil-lion last summer.

CGCT bas obtained government guarantees that its existence as a eparate company will be safe-uarded. But the firm is atili trying, without any apparent success, to obtain FFr2 billion in urgently needed cash to develop profitable new computer based telecommunications products.

likely to be the big money earner of France's telecommunications industry at the end of this decade.

auch as access from a specific type

eye on emerging standards and products. And already there were applications outside the traditional ares of data processing, such a electronic mail and teleconference

General manager for Perkin-Elmer

TERKIN-ELMER Data Systems has named Brian Hanley as general manager of its UK operations. He joined the firm eight moved into the masagement of months ago as national sales and moved into the masagement of sales ectivities in medium and marketing marger sales. marketing menager after 20 years in sales and marketing management with Olivetu and Honeywell. Hanley joined Olivetti in 1963

He moved to Honeywell in 1969 to sell large computers and by the end of his first year, he was

and was one of the company's top

■ NCR's financial systems divi-sion to the UK is to be split into ■ CMG Information Services (Scotland), part of Europe's largeat two. Mike Newley has been apindependent computer services pointed manager of the general financial division which will look bureau, has made two senior ap-pointments. Bob Hare has been ap-pointed senior consultant. He after UK and overseas banks, previously worked with CMG for building societies and other financial institutions. He started his eight years before joining an Edincerecr with NCR in 1970 as burgh-hased computer cunsulsystems snalyst. The new-styled tancy for three years, prior to taking up his new appointment. Bob financial systems division, which Stinton has been appointed in-formation consultant. He trans-ferred from CMG's Middlesex will concentrate on the major UK clearing banks will be run by director Sean Dixon-Child. Charles Exley, president of NCR Corporation since 1976, has been designated as the company's chief executive office. William Ander-

E Stuart Walsh (below) has been promoted to director at MSA (Management Science America). on, NCR's chairman, who since He joined the company in No 1973 has served as chief executive vember 1978 as sales executive and officer, announced earlier this year in January 1981 was appointed his plans to retire as chairman next sales manager for the UK. officer, announced earlier this year

large systems. During his 14 years with Honeywell, Hanley was res-

with Honeywell, Hanley was responsible for £84 million worth of

He collected the top Honeywell

sales awards across all the com-

pany's product lines from

minicomputers to the largest com-puters in the Honeywell range.

■ Milea Flint, joint winner at Cranfield last year of the Business Graduate of the Year competition and of a prize for the best export research project, has joined Baric Computing Services as market de-velopment manager. He previously did freelance marketing work with microcomputer software products and communica-

year at age 65.

■ Albert Knoll has joined Gerber Systems as managing director. He will be based in Munich, West Germany. He was formerly managing director of Compeda in Munich.



Computers in court - DP and the law. IDPM Central London

branch. Altergo, 15-19 Kingsway, London WC2. 6.00 Privacy - data protection legis-lation, by Michael Wood of the NCC. IDPM Sussex branch.

Room G27, Mithras House, Brighton Polytechnic, Moulescoomb, Brighton. 7.00 JUNE 7

Social evening. IDPM Birming-ham branch. Tickets at £3.50 arc available in advance from the secretary. Buffet and skittles included in cost. Members may JUNE 13 bring along non-members as guests. Tel: (021) 550 0375. Selly Park Tavern, Pershore Road, Selly Park, Birmingham. 7.00.

benefit from the experience of cur-rent LAN users. Speakers have

been invited for their experience of

man of the Cabinet Office, with Lawrie Lawrence of Midland Bank as chairman. Emphasis is on

the practicalities from the senior

The conference, presented

management point of view.

UMIST

Tomorrow's staff - where are they now? IDPM Norfolk brsnch. Castle Hotel, Castle Meadow, Norwieh. 7.30.

Chloride Standby Systems

IEEE. Polygon Hotel, Cumber land Place, Southampton.

JUNE 9
Wine tasting/social event.
IDPM Sheffield branch. Fountain
Precinct, Sheffield. 7.00. Tel:

ohn Reedman on Sheffield

Meeting. Electronics for Peace London branch. Wren Coffee-house, Jermyo Street, St James's Church, Piccadilly. 7.00. All Wel-

Course lee; £250.

Further Information from: The Registrer, The University of Manchester Institute of Science and Technology, P.O. Box 88, Manchester M60 10D. Telephone: 061-286 3311, Extension 2713; Telex 866094. Closing date for application; 18th August, 1863.



■ Two senior executives have been elected to the main board of Chris Winn, who joined nine years ago as dealer division, has been suppointed mandirector of ACT (Internaaging director of ACI (Interna-tional) Ltd. Also elected to the board is Chria Buckhsni, creating and executing ACT's marketing strstegy in the UK over the past two years. Buckham, who was appointed group marketing manager in 1981

■ Paol J. Kofmehl has been elected president of IBM World Trade Europe/Middle East/Africa Corporation, headquartered in White Plains, New York, An IBM vice-president and a member of the EMFA Board, Kofmehl connimes as directuer general des operations, IBM Europe, l'sris, in charge of all country and area operations in Europe, the Middle East and Africa. Georges Savy, furmerly vice-president marketing and services, has been appointed directeur general du marketing and des services, IBM Europe, and a member of the executive office. Savy's responsibilities have been expanded to all new business ventures. The IBM Europe executive office, chaired by Rsapar Caasani, will now be composed of William Eggleston, 1BM Europe; Michel aucon, administrateur, directeur general; Paul Kofmehl, directeur general des operations, and Georgea Savy, directeur general du marketing et des services.

■ DVW Microelectronics, manufacturer of the Huaky portable microcomputer, has named John Moss as defence market manager and Michael Bne as sales co-ordi-nator. Moss has had over 20 years' experience in the computer and communications iodustry with companies including NCR, Codex, encywell and General Automation. Boe has worked as a buyer for Rolls Royce and in Stock Control for Chromtryk in Copenhagen.



Richard Wodmon, marketing director of Dragon Data (right) receives a special golden cassette from Peter I anshave tales director of Kiltdale, to mark the production of Kiltdale's one millionth data castette. Production is now over 100,000 tapes a week.

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Bring networks into line From page 21

The INT also recommended to the Alvey Committee that Rainbow Book protocols be used by participants in the UK fifth

by participants in the UK fifth generation development programme and was gratified to see it become part of the Alvey report.

The INT is now helping to urge the software packages that implement the protocols on to a wider user base through the British Technology Group, through manufacturers and through the universities and companies where the development work was done.

Although the protocols allow the range of applications that are developed to be enlarged previously available protocols were

of terminal to a specific operating system — the JNT thought that integrating voice and data traffic was still a few years away from

Bui users should keep a close

previously available protocols were preprietary ones for specific tasks

being an economic proposition.

Traffic patterna and initial installation costs differed widely and for the time being different systems would continue to be installed for different and continue to

ing that were becoming viable and that would provide high quality communications facilities talkible to research was facilities. to research workers

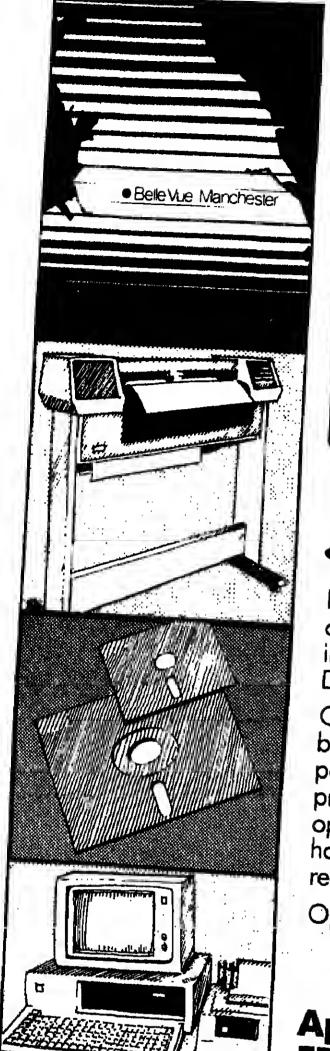
CONFERENCES ■ The Practical Use of Local Area Networks is a conference for man-agers on both data processing and

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This course teaches the Peacel programming language and the use in the development of well-engineered high quelity software. It will be of interest to programmers and engineers in industry end commerce who wish to obtain a precioal introduction to the language. The course work is divided equely between is ctures and practical exercises using microcomputere running the UCSD Peacel System. No previous knowledge of programming is selecting, building and using a variety of the LAN equipment available. Conference speakers are Dr Brian Spratt of Kent University, Peter Knowles of John Laing Construction, Peter Vickery of Citbank, Brian Parker of Provident Mutual and Adrian Norman of the Cabinet Office, with

BIS Applied Systems, will be beld on June 23 at the Cavendish Centre, London.

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controlled, and this minimises the movement of the print-head and considerably enhances the printer's productivity.

features of the new primer. The daisywheel can be changed by the operator and the lung-life fabric print ribbon, in either black or essily replaceable cartridge. Inaddition there is automatic paper feeding and accurate slignment of stationery fed from hoppers to keep operator intervention to a

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ily fitted by the operatur.
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ALVERONIC Computer Systems has authounced its Upgradeable Cabler - a fixed-price data distri-

"Lust considerations have tended to limit the number and location of terminal points around any but the smallest office build-ings," says Barry Smith, Alveronic technical products division direc-tor. "Staff often have in share terlocated and, if people or functions have to move, re-cabling is inevitably expensive and disroptive. Adding new users to an existing system is especially costly, creating frustrations all round."

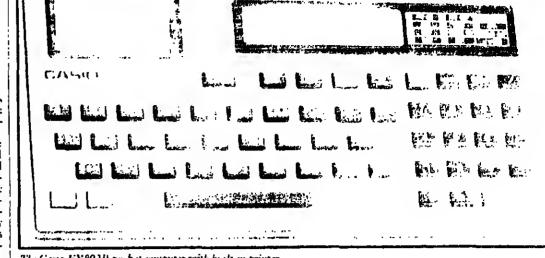
Instead, Alveronic ofters in cable an entire building, either be-fore occupation or after, at a fixed cost of £45 per terminal point. The nnly extras are the cust of an Alveronic-supplied "patch panel" cross-connecting each of the coms chosen terminal outlet, and the standalone leads needed to link each terminal with an outlet point. Alverunic can ofter 24 or 48-port

parch panels suitable for any computer in RS232 and IEEE 48 cable inder the fixed-price scheme. A variety of untlets can be selected including wall-mounted fixed. black/red, comes in the form of an wall-mounted jack points or flush fluor island muuntings. Connec-tions offered include quick release DIN to RS232 standard for instant

user mubility.

"If a company can save nnly one VDU from its anticipated requirements by this approach, it will have paid for the patch panel and associated work," Smith says. "In most cases, we find that datapoint distribution actually saves money distribution actually saves money while impruving the flexibility of terminal access throughout the

Alveronic Computer Systems (CW), Alveronic House, Ryde Avenue, Hull, N. Humberside HU5 IQQ. Tel: (0482) 445461.



The Casio FX8021' pocket computer with balt-in printer.

Pocket computer's built-in printer

ten separate programs, totalling

1.568 steps and 26 memories.

lamily of pocket computers, Casin FX802P is the first to have an integrated printer. It makes a coinplete hard copy data processing

system in a compact unit, about the size of an average wallet. At a recommended retail price of £99.95, it works not cheaper than one of the earlier "naked" machines with an add-on printer, yet it retains full compatibility with the existing FA3 cassette in-

Printout, under direct or program control, is no 38min wide paper. Use of a mosaic system for

Programming language v. Basic. Computing capacity includes simultaneous residence of up to

Keyboard layout has been further retined, with the convenrows and with an extended space bur, after the normal toe comount

Memory storage can be expanded at will in exchange for program steps, up to a maximum of 226 Unit 6, 1,000 North Circular Road, London NW2 7JD. Tel: 01-450 9131.

Head life of 30 million characters

A LOW-COST printer, the DDTSP83 from Data Design Techniques is an 80 column, scrial, dot matrix system with a prioting speed of 80 chps. It is designed to operate through software control directly from a microcomputer, office computer or similar device which has a printer port for Centronics or RS232

specifications.
Graphic character code set is also available with the capsbility of printing in blt image graphics. In addition, the DDTSPB3 has considerable formatting espablities with its own internal microproces-

or system.

The DDTSP83 uses a cartudge ribbon, and this printer has a head

ribbon, and this printer has a head life of approximately 30 million characters, after which the head is easily replaced.

The prioter, priced at £325 (end-user), is available now.

Data Design Techniques (CW), 68/70 Twein Road, Welwyn Garden City, Herts AL7 1BD. Tel: Welwyn Garden 34/74.

Data holder will cut out those lost lines

poratea a mechanism so well bal-anced that the holder can be moved without the use of elamps, is the claim of Gullid.

The data holder has a cursor

which can be moved by the user, easily eliminating the possibility of naissing out lines which can happen through eyestrain.

Gallid says it has given great thought to the data holder to en-

sure that it can be easily adjusted and a special spring tension allows it to be positioned with documents

The data holder can be used on a desk or in combination with a Gallid VDU trolley.

It can be locked, if required.

when used with a book or manual. A wide range of versatlle fitting into control consoles, drawing boards, instrumentation panels

It is available in A4 and A3 document sizes and comes in a wide range of colnurs.

without the need to clamp the mechanism.

Rugby, Warwickshire CV22 7AA.
Tel: (0788) 74442.

Mannesmann Tally adds to its range of matrix printers

THE MT12X series is the latest addition to Mannesmann Tally's addition to Mannesmann Tally's family of matrix printers. Comprising the MT123, MT125 and MT127, the series offers a compact, cost-effective solution for special multi-function printing applications at speeds of up to 160

the range is compatible with many microcomputer systems due to the industry-standard interfaces Computerware (CW), 55
Chapel Street, Thatcham RG13
4JS, Berkshire, Telephone:

(0635) 68381.

Computerware (CW), 55
to the industry-standard interfaces incorporated in all Mannesmann Molly Mil Berks RG

Rath printer is easy to operate, 788711.

say the manufacturers, with simply-selected variables and features, including character pitch and style, tabulatiun, double-width characters and self-test facilities. The MT12X series provides various divided paper-feed systems

matic front feed facilities. Each printer is available with a variety of printheads (I, D or L). Mannesmann Tally (CW),

as well as manual and semi-auto

Molly Millars Lane, Wokinghard, Berks RG11 2QT; Tel: (0734)



THIS Pericom 7800 terminal upgraded to graphics, has the latest "extra" - a joystick to control the cutsor movement around the screen.

The joystick, on the operator's right, is mounted in a MK145LJ. Tel. (0908) 614242.

Sintrom add-on for the LSI-11

AN add-on system for the DEC LSI-11, which supports both 22-bit add 18-bit addressing and converts this micrucomputer system to offer the versatility and which run on systems using 18-bit

controllers using 18-bit bus, Q18.
It is compatible with RSX11-M,
RSX111-M Plus, RSTS, Unix and all other DEC operating systems which support the KT24.

power of much more expensive DEC minicomputers, has been launched in the UK by Sintrom Electronics.

The Dataram M23 fully supports the 22-bit main memory addressing of the DEC LSI-11/23 computer which offers four mega-

British-built VDU on sale COMPUTERWARE has intro-duced a British-budt visual display unit that emulates the DEC VT100. Known as the TT102 Plus

it has a 15 in. screen which is ovailbonded faceplate, and a specially designed character set, makes it suitable for 132-column work with

a minimum of operator strain, says The unit is housed in a new style

compact casing which has built-in the and swivel facility. It uses a low profile precision keyhoard which is ergonomically designed to the German DIN standards.

Many facilities are included as standard, including European characters and a grandard hard.

character sets and a standard hard copy channel.
The VDU is manufactured by

Tribestar Technology in Milton Keynes, which has appointed Computerware as the UK selling agent. Computerware is looking for distributors and OBMs.



The LA12 portable printer.

New portable plain paper printer

ste delivery of a new plain poper, portable printer manufactured by Digital Equipment Comp. For a second se

and weights 9.1 kg.

In addition to the usual EIA standard RS232C, RS423 and CClTT-V28 serinl interfaces, the LA12 siso incorporates an acoustic coupler, approved to work on British Telecom modems, allowing it to be connected to a host computer over standard telephone lines when being used at remote locations.

The LA12 employs a friction feed platen that will accommodate any paper up to 8.5 inches wide, including paper rolla, fan-fold computer printout paper and preprinted forms up to 14 inches long. A tractor feed option is available for use with fan-fold paper if required.

cenders. Character spacing can be varied between 5 and 16.5 chame-Digital Equipment Corp. Known as the 101:Cwriter Correspondent (LA12), it is a 150 character per second dot matrix printer that measures 46.5 × 14.4 × 39.4 cm 8.5 inch wide paper.
For international use, the LA12

incorporates a universal power supply and character sets for ten languages. The full 128 Ascu charanguages. The fill 128 Ascu character set can be printed using the LA12's querty standard keyboard. In addition, the keyboard can be changed to numeric data entry mode using a single keystroke (an indicator shows if the numeric code is selected) code is selected).
The LA12 is flexible when com-

municating with a lost computer. Two models (C and D) are svailable, both lisving the EIA serial I/O port operating at 50 to 9600

Rapid Recali (CW), Rapid House, Denmark Street, High Wycombe, Bucks HP11 2ER. Telephone: (0494) 26271.

Speeding the work of the WP operator

AS s basic word processor, the Dictaphone Series 6000 has text editing, at and and letter production Step, a shorthand style command to with address matching, page sequence which allows them to akip through unnecessary pre-liminary stages to go directly to the point at which they wish to atart numbering and auto pagination, global search and replace for multiple revisions of work throughout stored texts, buto-in-dexing of key words (eg to make a contents page for long reports), temporary and permanent phrase libranes, forms fill and recorda selection according to 20 simul-tanaous conditions, footnote "floating" to the correct page The other, called Set-Up, allows operators to use software features more easily by having the system remember their document formats and feature selections.

"floating" to the correct page, matter processing, multi-tasking and multi-operator access to store. Dictophono Co (CW), Rogent Square House, Tho Parade, Leamington Spn, Wnrwickshire CV32 3NL. Tel: Leamington Spa (0926) 38311.



source well ours, moved access the second Western Ave.

Colour graphics from any online applications

Designed to be used in conjunc-tion with Mantis, Cinrom's fourth generation application de-generation application development system, Man-Graph may be used by both novice end users and experienced programmers to compose and displsy complex business charts, says Cin-

procedures. The designs can also charts and generate chart presentation sequences for direct business tions. These applications can presentations or for alide making. access the data control database, manipulate the extracted data and display the results directly in easy to understand graphic farm without the need far intermediate files and "batch" type processes reand "batch" type processes re-quired by most other graphic

size of charts; and text plus hand copy of designs via 8 3287 ar com-

Man-Graph ronaista of two comcontrol (GAC).
IGD, which composes and de-

multiple axes per chart; romplex composite layouts; framed charts; cantrol over colour; position and in a separate file and needing no

programming.

Alternatively more powerful usage of Man-Groph can be obtained through direct output from ponenta – interactive graphica design (IGD) and graphics access Graphics Access Control (GAC).

grammers to compose and displsy complex business charts, says cincom Systems.

Dats for the final autput can be entered directly into a 3270 compatible graphic terminal and the resultant multi-caloured graph archart is available immediately.

With Man-Graph users design grapha and charts, graphic text and diagrams online interactively through user friendly menu driven procedures. The designs can also be used by online Mantia and lisps.

Sign (1GD) and graphics access

Graphics Access Control (GAC).

Using Mantis, the programmer may identify pre-defined designs that computer file and important interactively through user friendly menu driven procedures. The designs can also be used by online Mantia and text strings, as define composite layauts of charts and text strings, as define composite layauts of control (GAC).

Using Mantis, the programmer may identify pre-defined designs that computer file and important interactions and text strings, as desired, performs attained the computer file and interaction of direct output of data and interactions and text strings, as desired, performs attained and text strings, as define computer file and text strings, as desired, performs attained to display and print pre-defined desired, performs attained the computer file and the computer file and

using the dats.

A powerful and useful element of GAC is the facility for the end user to enter new numeric and text

may be either 3270 at and ard or stylised graphics text.

At any stage in the design proceas the current design can be displayed for verification. Once

At any stage in the design proceas the current design can be displayed for verification. Once



of the six dots/mm models round the first year.

As thermal heads are virtually maintenance-free, noiseless, and extremely compact, they are widely used in facaimile systems and terminal printera. Other applications for these low energy consuming thermal printing heads are in hand-held computers, unmanned geological and meteoromanned geological and meteoro-logical measurement stations, medical instruments, automatic bank tellers, automatic ticket prin-

THE RS-906 alngle bin sheet feeder for the Dsisy Systems M45 printer, now available from Peripheral Hardware, has automatic cut aheet insertion and stacking. A compact and lightweight unit, it is essily installed by the operstor hy simply clipping it on to the printer plate and connecting the power/paper-out cable which la lound in the printer, say the msnufacturers.

The RS-906 accommodates paper lengths from 92mm to 305mm, allowing printing in hoth portrait and landacane.

The RS-906 alngle bin sheet modes. Every line position can be printed, including the extreme top and bottom lines.

Na control signals are needed to operate the RS-906. A self-concision microprocessor keeps track in the printer, say the msnufacturers.

The RS-906 alngle bin sheet modes. Every line position can be printed, including the extreme top and bottom lines.

Na control signals are needed to operate the RS-906. A self-concision microprocessor keeps track in the printer plate and connecting the power/spaper alignment and automatically inserts the next sheet at the correct top of form position. This equivalent is a position of paper alignment and automatically inserts the next sheet at the correct top of form position. This equivalent is a position of paper alignment and automatically inserts the next sheet at the correct top of form position. This equivalent is a position of paper alignment and automatically inserts the next sheet at the correct top of form position. This equivalent is a position of paper alignment and automatically inserts the next sheet at the correct top of form position. This equivalent is a position of paper alignment and automatically inserts the next sheet at the correct top of form position. This equivalent is a position of paper alignment and automatically inserts the next sheet at the correct top of form position. This equivalent is a position of paper alignment and automatically inserts the next sheet at the correct top of form position. This equivalent is a position of paper alignment and automatically ins be widely used in inch-size prin-

thermal head

ant Electric put on the market last June, the company recently marketed an intermediate range thermal head in two models, the S216-95 for the A-4 format and the S257-95 for the B-4 format, with a resalutian of 9.5 dots/mm (240 dots/inch). And this mouth, Mitsubishi Electric marketed the S216-6 and S260-6, with a resolution of six dots/mm.

Mitsubishi Electric place.

Mitsubishi Electric plans to manufacture 3,000 units of the 9.5 dots/mm madels and 30,000 units of the six dots/mm models round the first ways.

ters, point of sales systems, etc.

Mitsuhishi Electric expects the
new 9.5 dots/mm thermal heads to

356mm and widths from 140mm Monkspath Industrial Park, Solition of the portrait and landacape Monkspath Industrial Park, Solition (CW), 2-3 Marunouchi 2-chrome, Chiyoda-ku, Tokyo, Tel: Tokyo (218) 2171.



"NEWS diatribution canstitutes up to 40% of many newsagents' business — but takes up a diapro-portinately large amount of his time. What we have dane is to tip the balance the ather way, and make it possible both for the news-agent to expand this side of his business and save him much of the time, fatigue and aggravation be has to spend on it."

PRODUCTS

has to spend on it."

With these wards, Jahn Martin, chairman of Martin the Newsagent, annaunced the launch of GroodNews, claimed to be the first complete computer aystem for

GoodNews combines, for the newsagent alde of the business, stock control, diatributian and ac-GoodNews combines, for the

Graphics

unit from

Tektronix

processing

counting facilities with a counter-top cash register, all in a compact it will cost. It then immediately

package.
GoodNews is designed for newsagenta, hy newsagenta, in conjunc-uon with Dollabsm, trading as

The system, comprising key-board, display screen, audit roll, payment till and separate high-speed printer will fulfil all the "back office" functions with the front-of-shop cash register tasks, says the manufacturer.

When the first news orders are one atep, key into the system inprints out the rounds lists.

Items for sale or collection in the shop, or saved for customers on holiday can all be logged at the touch of a hutton; price changes

can be effected in seconda.

Martin Halo is distributing the GoodNews package at a purchase price of £3,950, and leasing terms will be available. The package comprises hardware, sofrware, user manuala, paper and audit rolls, initial installation training

and data transfer assistance.

Martin Halo (CW), Martin
House, Asbwells Road, Brentwood, Essex CM15 9ST. Tel:
(0277) 72916.

£125,000 orders for disc system

SYSTEMS Support Services Surrey has announced a new disc system, the Wasp. Based around the company's own high performance dual purpose controller Systems Support Services has produced a disc system which it says meets major requirements among end users, desiers and manufactur-ers — higher performance disc drives, higher security, more flexi-

bility and simplified usage.

The Wasp is a standalone disc system that incorporates up to 40megabyte disc drive, 48 megabyte estringe streaming drive, disc/tape controller, power supplies,

The product is now available t run on Sirius, IBM PC and DEC. The controller, which interfaces the Winchester disc drive and 1/4in

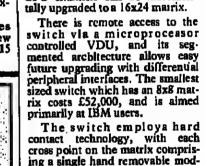
certridge drive to the range of systems, has attracted wide interest through Control Data, the supplier of the drives, and Systems Support Services anticipates significant orders for the controller and the disc system.

Ralph Warren, director of Systems Support Services, claims, "We know that in many cases,

computer systema users are being hampered by inadequate disc storage and disc drives are in turn being hampered by inefficient controllers. The combination of our controller and CDC's products offers a unique product that authorforms disc atorage options provided by manufacturers by fac-mrs of up in 50 to 1, yet has inbuilt security and ease of use fea

Initial orders for the Wasp ex-ced £125,000.

Systems Support Services (CW), 57 Woodham Lane, New Haw, Woybridge, Surrey KT15 3ND. Tel: (0932) 55932.



switching can still be done physi-cally ss well as by keyboard, and



Peripheral switch to UK market

AN expandable computer matrix switch, introduced into the UK by US switch manufacturer T-Bar, is designed to link peripherals and CPUs within large systems more

The switch, the 3690 CSM, has several new fearures. Individual port modules (for peripherals, such as tape and disc controllers, unit record equipment, etc) and CPU channels can be incremen-

contact technology, with each cross point on the matrix comprising a single hand removable module. It functions in a high apeed environment including dats

Attention has been paid to security and back-up. The

to prevent disconnection of an ac-tive device by the operator. The VDU can provide instant plans of the configuration and has in-bullt diagnostics to highlight problems.

The 3690 gives customers the flexibility to change devices to whatever applications are needed at the time, with no need for dedicated databases. T-Bar's chairman and chief executive, Henry Mor-gan, said: "In the 1970s large systems had several hundred terminals, whereas now they not only have tens of thousands of termi nals, but the computers are

dispersed and are performing multiple tasks. As systems ge larger it is becoming important to develop economies.

The switch is segmented for easy upgrading. The control system is separate from the switching system, so future changes, for example to fibre optic technology, will not mean chang-ing the whole switch, but simply rhe interface. The switching mod-

ules can also be used for parallel or serial interfaces.
T-Bar (CW), 141 Danbury
Road, PO Box T, Wilton, CT
06897. Tel: (203)-834-8368.

Interface for V80 printer

VERSATEC has announced an IEEE parallel interface for its V80

plotter

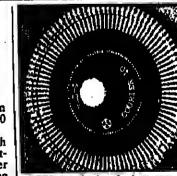
electrostatic printer plotter.
The V80 can now provide high quality electrostatic graphics outand microcomputer systems using the IEEE 488 standard, says Ver-Faceplate stocks include 12, 15, 16 and 19-inch sizes, although for quantity requirements, tailored faceplates can be manufactured. The first units available will comprise a

satec.
The company has already won n major order from ICL to supply V80s with the IBEE 488 interface for use with its peripheral single user Perq workstation system, which exploits the latest developments in technology to provide high performance raster

raphics.

The interface is supplied with a standard 2.5 metre IEEE cable.

The V80 electrostrate printer plotter plots with a resolution of 200 dots per Inch and a maximum plot speed of 1.4 inches per second on 11th roll or fan fold paper. In print mode it has n maximum speed of 1,000 lines per minute and 132 characters per line.



AGT's musul printwheel.

New line in printwheels

AGT Computer Products, Southern Cslifornia manufacturer of daisy printwheels, has intro of daisy printwheels, has intro-duced a new line of Wang compati-hle metal printwheels. Available immediately are 15 of the most popular models, in 10, 12 or 15 pitch and proportional spacing. These metal printwheela are said to offer print quality of four to five times the life of a plastic wheel.
In addition to the Wang printwheels, AGT offers a complete line
of plastic, dual plastic and

metallised printwheels.
AGT Computer Products.
(CW): 20675 South Western Avenue; Formace, CA 90501.

Letter-quality printer

Compact sheet feeder

The RS-906 sheet feeder from Peripheral Hardware



tion-free material, reducing a preventing glare on the microfe victing screen. The Rolleart is available wi two lockable drawers located beneath the tabletop for storaged paper and toner. Each drawer a hold a minimum of two file ban Both drawers contain a safety of inder lock for security as wells ballbearing telescope rails for my

movement of the drawers. The Rolleart contea with locking casters for easy inovement in a showit on the Rolleart is an ADC 3AD microfiche front projection autummted frame retrieval unit the displays any poge on a standal microfiche by keyboard entry, a improving user efficiency.

Reader

eliminates

guesswork

THE Rollcart, introduced by a formation Design, is designed; meet the needs of those work with microfiche readers and as der/printers. The height of a table is adjustable from 25 inducto 40 inches.

The tabletop and sliding was table extensions are made of relieving the property of the stable of the tabletop and sliding was table extensions are made of relieving the stable of the stable catteriors.

Price for the Rollcart without drawers is \$225, and with 198 drawers \$425. Information Dealgn (CW), 1300 Charleston Road, Maugus View, CA 94043.

High speed stacker

A PATHNTED high-speed pro-sion forms stacker is now available from Eyecote (Data Devices). The DataStacker pulla forms from a printer and stacks them at printer speeds up to 2000 lines per minute and akip rates of up to 80 inches per second. In ao doing it overcomes static electricity and gravity feed problems, eliminate printer downtime.

Free-standing, the DataStacks is fully automorphism and well back.

is fully automatic and will hadde all standard continuous fan folded forms, including 11th single-pirk Eyecote (Data Devices) (CW) Salicoats House, Cutlers Rose South Woodham Ferrers, Esset. Tel: (0245) 329966.

operating system, and Fortran compiler. This gives the user lati-tude in terminal upgradability and compiler. This gives the user latitude in terminal upgradability and application growth, saya Tektronix.

The 4170 consists of two Intel processors, the 8086 and the 8087 numeric co-processor for data insurance of the second o The 4170 consists of two Intel processors, the 8086 and the 8087 numeric co-processor for data intensive functions, 256Kbytes of RAM, two 51/4 in floppy diacs, four RS-232-C interface ports with data rates adjustable to 19.2K baud, and three circuit board option alone The training allows the touch of a human finger — or for more precise interaction, any aultable metallic pointer — to communicate with the terminal.

In contrast to earlier — and explained in the circuit board option and three circuit board option and three circuit board option. and three circuit board option slots. The unit is housed in a com-pact cahinet which fits beneath a bench or alongside a deak.

CP/M-86(R) operating system, a Foriran-86(R) compiler, utility programme and graphics software.

Tektronic (CW), PO Box 69, Harpenden, Herts AL5 4UP.

Telt (05827) 63141.

A SOFTWARE package designed for the preparation of budgets has been released by EPS Consultants.

The new system, PCS-Budget, is part of a planned programme by EPS Consultants to provide pack-

THE 4170 graphics processing unit, a locally programmable processor capable of converting any of the company's 4105, 4107 or 4109 display terminals into a attndalone computer specialised for graphic tasks, is announced by Tektronix. Tektronix. The 4170 hrings distributed processing to a host environment. lost data is down-loaded to a terminal for interactive graphics, accessing firmware features, and controlling peripherals connected to the terminal.

Communicating with the terminal by the touch of a human singer.

Touch-sensitive VDU for UK

patihility with the existing members of the 4110 Series terminals (4112A, 4113A, 4114A, 4115B). All include the same CP/M-86(R) operating system, and Fortran aystems is announced by Cameron

Standard saftware includes the

The configuration of these ter-minals and the 4170 provides com-

component failure, and its face-plate is scratch and abrasion resis-tant. In addition, it has an anti-giare/contrast-enhancing surface which has been specifically de-signed for office, shop floor and

TK 1000 development aystem, including a faceplate, a cartridge housing the touch sensing circuitry, an LBD position display unit; and an RS 232 communications post beam or wire grid devices which the two dimensions. The resolu-

tions port.
Cameron Communications
Division, Burnfield Road, Glasgow G46 7TH. Tei: (041-633)
0077.

aged software for the most frequently used applications of its budget. system.

FCS-Budget handles budgets Soho Square; London W1V

Road, Newbury, Berks RG13:
covering four, 12 or 13 periods 5DG, Tel: 01-439 8222.

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★ D9766 300Mb disc drive MK7 Series £1000 + VAT

★ DRE 8000 series printer £175 + VAT ★ DRE 4000B (44B) disc drive £750 + VAT ★ DRE S30 disc drive £450 + VAT Delivery 30 days - Warranty 90 days perts. Contrect

Maintenance evelishie on request. For further Information Telephone: Newbury Dete Recording, Jill Bertlett on Steines (0784) 62020 or Phil Smith, Manchester (061) 481 0134.



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GREATER MANCHESTER COUNCIL

Tenders ere invited for the supply end installation of a computerised receipting system. Tender documents which must be received not later then 4 p.m., Thursdey, 30th June, 1983, are obtainable from County Treesurer, County Hall, Piccadilly Gerdens, Menchester M60 3HR.

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'Comfortable' static control wrist strap

FOLLOWING a market survey to investigate the shortcomings of static protection techniques in electronics manufacturing, 3M has developed a static control weight developed a static control wrist strap which offers coinfort, conve-

It is particularly suitable for epplications where user acceptability is a major consideration, says 3M. independent lests have shown

that 20,000 volts or more cen build up on the human body in the form of low-eurrent static electricity, yet only 100 volts is sufficient to damage many semiconductors or integrated circuits. The 3 M Charge-Guard waits even exercises. Charge-Guard wrist strap protects devices from such demage by grounding static carried by production personnel engaged in the assembly of components, or service engineers operating in the

a highly-conductive, corrosion-resistant band that is comfortable to wear, says 3M. The material is soft, lightweight and "breathee", while its elasticity ensures good contact is maintained with the street at all times.

Out removing the band from the wrist. Its swivel action and strain relief control minimise cable stress.

Connection to a suitable earthing point is effected by a banana

Durability is also a feature. Per-formance is unaffected by perspi-ration or body oile and the use of stainless siecl for all metal parts allows the strap to be washed regu-

An insulated outer surface reduces the chance of accidental injury and exhibits sufficiently high resistivity to prevent fusing to live contacts. Additional safety is provided by a one-megolim resistor moulded into the earthing lead connector.

vice engineers operating in the vice engineers operating in the lit employs a combination of stainless steel fibres and elastic nylnn, woven together in produce

The earthing lead is nitached to the wrist band by means of a snep fastener of 3M design, which offers 360 degree contact but enables Instant disconnection with-

Connection to a suitable earthing point is effected by a banana plug, or erocodile clip attachment supplied for field service angineers. If the wearer strays too far from the workstation, the band's natural elasticity reminds him that disconnection has occurred by day disconnection has occurred by de-livering e gentle "slap" on the

The Charge-Guard wrist strap is available with either a coiled telephone-atyle cord extending to 5ft (Model 2066) or a standard straight 4ft lead (Model 2067). A choice of bands is also offered to

3M United Kingdom (CW), 3M House, PO Box I, Bracknell, Berks RG12 IJU. Tel: Bracknell (0344) 58307.

ZENITH Data Systems has intro-duced 16-bit colour Wordstar and

SuperCalc packages to the range of software available for its Z100 deak-top microcomputer.

Colour SuperCalc shows nega-tive amounts in the body text in-red, protected entries in yellow and unprotected entries in white.

Operating under ZDOS, the 16-bit SuperCale enables accountants,

business owners, planners and en-gineers to answer the "What if?" and "Now wbat?" questions.

16-bit colour packages

for desk-top micro



GOULD SEL has extended the range of disc drives on its Concept/32 series of 32-bit superminicomputers. It will now offer the Model 8137 80 Mbyte mini-cartridge removable disc drive and the Model 8147 160 Mbyte mini-Winchester disc

The mini-cartridge is a random access disc drive featuring front-loading 9in diameter cartridge media which is removable as a sealed unit. This minimises the effects of particle contamination when the cartridge is removed

from its drive.

Another feature of the 8137 is an ctustor and spindle lock mechan sm which takes effect when power is removed, making the disc drive suitable for applications which re-

quire periodic transportation.

The Model 8137 consists of a data cartridge with 82 Mbytes of unformatted data storage espacity, spindle, direct coupled DC brushless drive motor with digital speed control. universal power espace.

control, universal power supply and actuator. It optionally allows frequencies of 50 or 60 Hz.

The Model 8147 completes the range of disc drives, providing a middle storage capacity between the company's 80 and 300 Mbyte disc drives, and offers mid-range disc drives, and offers mid-range storage capacity for CAD/CAM application and in energy management and control

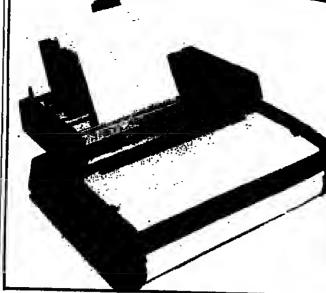
It is a rack mounted, fixed media drive with 165 Mbytes of unformatted data storage capacity. The 8147 provides industry etanderd SMD compatibility and performance in a small package in which advanced electro-mechanical design results in low power. cal design results in low power consumption, says Gould.

The 8147 disc drive has a sealed disc module that contains the disc

disc module that contains the disc beads, rotary type actuator and air filter. The drive uses light-load, contact-type, start/stop heads and lubricated media for high reliability. The heads are returned to a landing zone out of the data area during spindle start and stop functions, reducing the possibility of media degradation in data areas. Both disc drives use low power Schottky and ECL technology.

Gould SEL Computer Systems

Gould SEL Computer Systems (CW), Rafferty House, 2-4 Sutton Court Road, Sutton, Surrey.



The GE dot matrix printer with automatic sheet feed.

Quick and quiet dot matrix printers

THE General Electric 3000 series of dot matrix printers, which are of dot matrix printers, which are claimed to offer near letter quality with three different speed options and quiet operation, has been introduced by ISG Dats Sales.

The 3000 series comprises six different standard and dual mode models, exercises and dual models.

models, ranging in speed from 100 to 500 characters per second with pitches of 10, 12, 13.1 and 16.5. With dual mode models, quality printing is provided at speeds of

printing is provided at speeds of up to 200 chps.

Costing from £1,700, all the models in the range combine DP and word processing capabilities, with a choice of 86 or 136 column designs that 272 doubt designs plus 72x72 dot/inch grapb-

Designed for applications rang-ing from light duty cycle profes-sional data printing to heavy duty,

high volume, dats or word proce-sing, the aeries all interface in the same way and are totally inter-

On all models, printing is bi-directional and logic seeking. The printers bave either nine at

on all the models include built-in tractors, a six-part form capability and a close-in tear-off bar to cut form waste.

Optional extras include an automatic eheetfced, a Centronics parallel interfacs, a single docu-ment inserter and multi-colour

ISG Data Selea (CW), Uok 5, Weilington Industrial Esisie, Basingstoke Road, Spancert Wood, Reading, Berks RG? IAW. Tel: Reading (0734)



The BDP 57 data projector.

its background, With a dual 8/16 processing capability, the Z100 operates on six colours. Zenith Data Systems (CW), Bristol Road, Gloucester, GL2 6EB. Tel: 0452 29451. Big screen displays A DATA projection system announced by Reflex will display high resolution computer generated graphics on large screens. Zike HDB 57 will produce sharp

ated graphics on large screens.

Known as the EDP 57, the proinput signal available from most

terfaced directly with most compu-Designed for use in normal lighting the EDP 57 is suitable for training, sales and marketing presentations as well as software demonstrations to large groups demonstrations to large groups,

It can be used with screens ranging in size from 1.2 metres to 3 metres (diagonal). Even with the largest displays, the projector's 20 MHz video bandwidth and precision optics ensure that complex data and graphica are presented with very high 600 line resolution. In addition, the projector's vertical and horizontal scan rates can be varied over a wide frequency range (45Hz to 80Hz and 11kHz to (075 35) 64327.

characters from computer outputs even with 132 characters per line, ningles or can be in. says Reflex. The projector has been introduced because ordinary video applications, will suffer pic-ture degradation on lines of text with as few as 40 characters.

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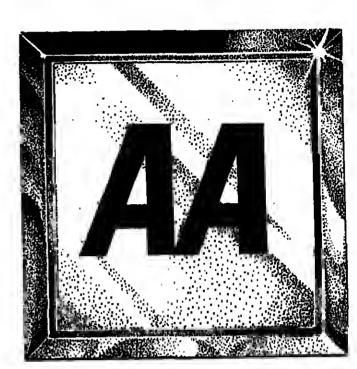
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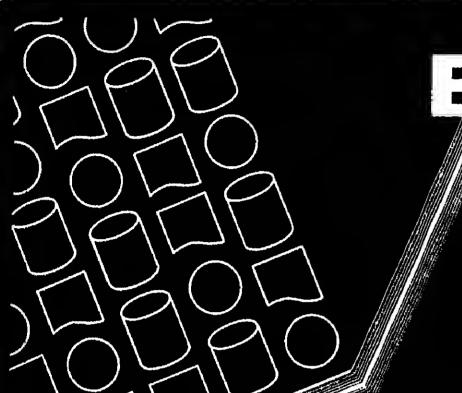
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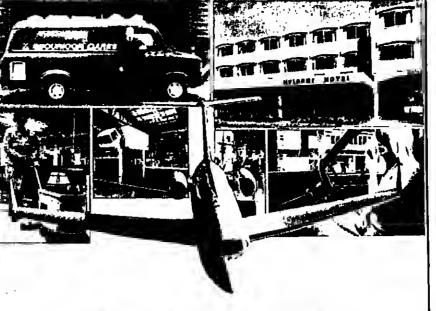
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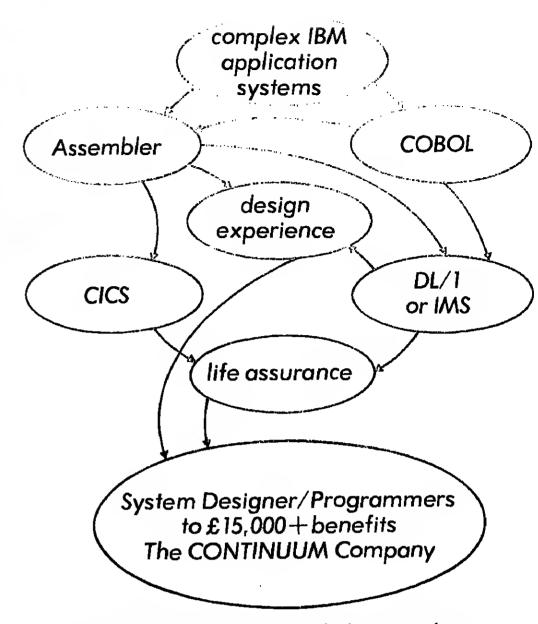
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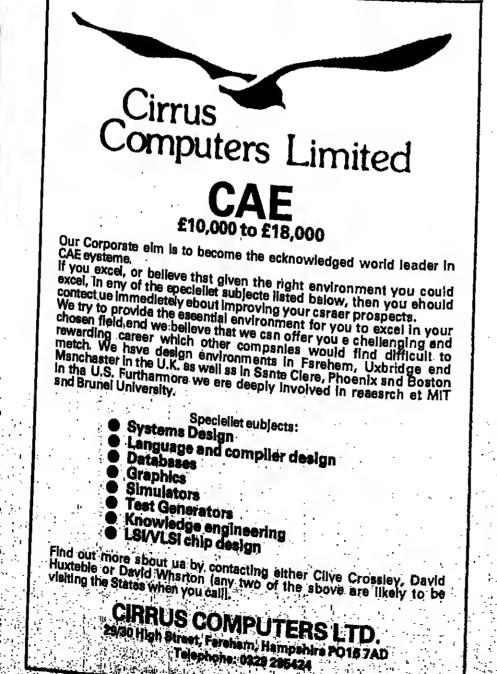
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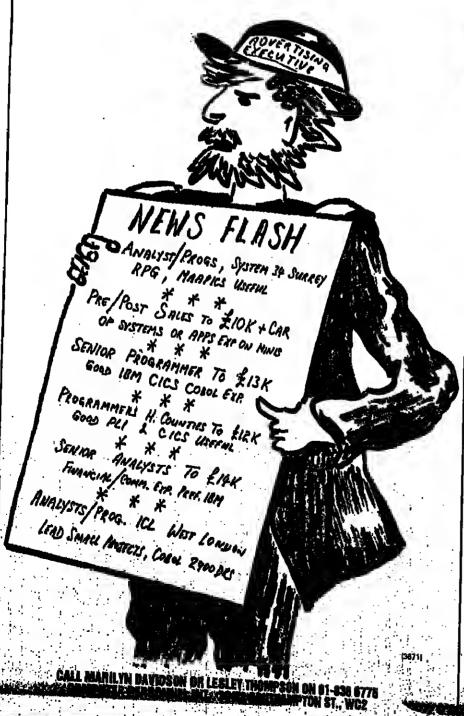
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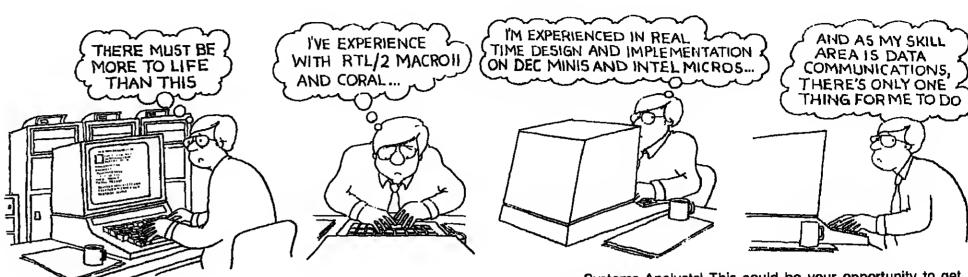
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The following positions are for the VS Operating Systems Department which is responsible for the design, development and maintenance of the operating system, which is virtual inemory, inulii-tasking system for the 32-BITVS business computer—one of the products that has made Wang the industry leader in interactive data processing and office automation

- 1. Working with the Released Product Development Group, the successful candidate should possess a solid background in operating systems principles as you will be responsible for maintaining and/or supporting them and providing assistance in finding system problems and developing
- 2. Working with the Released Product Development Group the successful candidate should be well versed in operating systems principles and should possess both operating systems development and support experience. As you will be working on ways of making the operating system more supportable and tolerant of errors you should possess a strong systems programming background with OS emphasis.
- 3. Working for the Internal Development Group you will be responsible in assisting in the design and development of the VS Operating Systems Hernel, and the successful candidate should have extensive assembly language expenence and should be well versed in operating systems issues, especially those that relate to virtual memory, process control, memory management, etc.
- 4. Working for a new Product group developing a new generation of CPUs. The successful candidate should understand computer architecture and CPU hardware design and a solid background in operating systems design and development. Some of the issues that will be addressed in this group are very small systems, multiprocessing, high availability virtual memory. disk subsystems and co-operation with intelligent I/O processors.

COMMUNICATION SYSTEMS NETWORKING GROUP

Interconnect Systems

- 7. Working on interconnect projects the auccessful candidate should possess expertise with IBM telecommunication technology and IBM
- 8. Working on the development of emulations between Wang hardware and other vendors, the successful candidate should possess knowledge of of telecommunications on 3270, 2780/3780 and/or async with assembler language programming ability.

TRANSPORT SYSTEMS

Working on designing, implementing and testing communication software for Wang products to support WangNet, X21/X26, Teletext, leesed and switched circuits, end network monitors, the successful candidete will possess communications experience with HDLC, X26 end/or carrier sense multiple access with collision detection. Experience with microprocessors, operating systems and assembler or PL/M is necessary.

NETWORK SYSTEMS

10. You will be epplying your expertise to the following projects:-Communication eccess methods, file trensfer, remote terminal attachment, configuration and control of network services for Wan Net, and enhancement of network management architecture. The successful candidate must have a track record in one or more of the above areas and experience with assembler and/or PL/M, PL/1.

To apply for any of the above positions please send your C.V. to Malcolm Seaton Wood, CRS and EJ Rhodes, at the address below and indicate the position(s) of interest. Please also englose a summary of

your career accomplishments and future objectives. Our clients will be interviewing for these positions, in London, in sarly

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To Elik (+ July Review)

Mr. C. Bambersey herer

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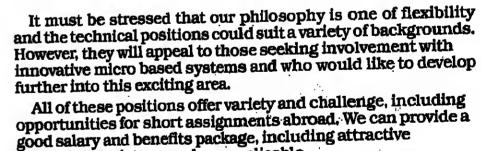
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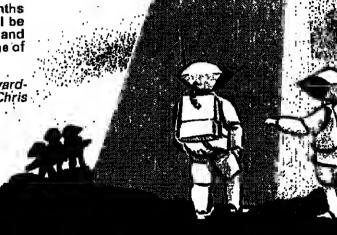
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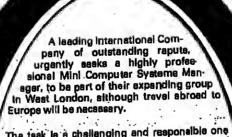
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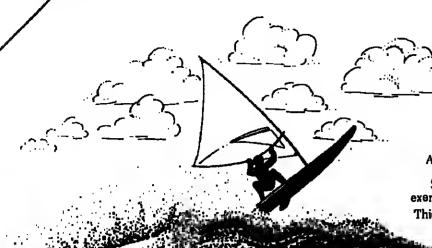




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neration is the most impor-tant consideration of any wrote about a few weeks job. No matter how much ego. Trade associations can satisfaction an occupation may give, an matter how also provide useful asgood the relatinoship be- sistance, and if you have a personnel department you may find thei they intween employer and employee, no matter how at may find that they in-tractive the product and terchange information with wrong then somer rather similar industries and conthan later the situation has panies. On the other hand, to be resolved.

This usually means partment your control over moving to a new employer remuneration levels may be who really understands what the job is worth. It may be n friendly neighbourhood reluctant departure, but sales recruitment agency build also be able to probabiling acciety, the bank manager, the butcher, the balker and the many other millstones of the committed according to the control of the cost of th

ations. What is the cost of taking on a new employed The financial considerand what will be the cost if a ations of salespeople are usually different from those thoroughly experienced of other types of employees. pay too high, what kind of Sales people are typically people are you likely to at-tract? Possibly undiscimore concerned about flow they are paid rather than plined, erraue, disloyal, agwhat they are paid. gressive, avaricious loners One of the real attractions who are only in it for the money and will leave you

of selling as a professional occupation is that it is perthe instant there is a better formance related. If you deal available, succeed you earn more than the average employee, if you fail you get less. So, any alesman worth his sale excepts to win most of the time. succeed you earn more than pects to win most of the time them!) won't bother to apand will therefure wish to be reminerated io a manner that matches high achievement with high reward.

ways be susceptible to the

nireo call of job-ads and

you're getting the new guy

It can take a long time to become completely fluent

Alan William

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It may seem like a contradiction to say that head bunters salespeople seldom change jobs merely for higher Just thick about the cost of replaciog an experienced rewards; but it's true. and accomplished salesman However, there are two basic factors which basic factors which bave to be borne in mind - the going rate for that particular ob in that particular indusity or market sector, and the with a new company, pro-duct, client base, territory layout and all those other salesman's "bottom line" in terms of the minimum income he needs to maintain his social and domestic obligstions in a manner to which

ramifications of running a sales area effectively. Time open I pursuing auch he is accustonted. knowledge is time diverted from scliing, so the amount a salesman should be paid is that which significantly re-No saleaman enn be settled and committed in his job unless he is achieving the higher of the two. Conduces the odds of his deparsequently, salespeople tend not to leave an employer for linancial ressons if the packture for reasons of reward for the fioancial implications of the departure of a age is around the industry standard. But they may deauccessfui salesman in terms of lost revenue outweighs eide to depart if the way the remuneration is created is the cost of even over-reinuneration by many, many nappropriate in terms of the times. Yel the sales manager is sales objectives that have been set for them. unlikely to find an adequato

The level at which a replacement for the money salesman should be paid de-pends on a variety of factors, but this does not include consideration of what other that was paid to the previous incumbeol. After all, the going rate has been estab-lished by his very departure. people' in other roles within the same company are earn-

If other employees want to run the risk of perform ance-related income lot PUZZLE ance-related income lot them try and get into selling. After all they could also increase their income by taking up brain surgery if they are vocationally suited to it! No, the most important consideration is the rate at which salespeople within your particular lodustry are paid. ANSWER = A SUITABLE configura-

paid:
There are several ways of establishing this information. Recruitment advertising within the trade and national press can provide useful input no long at your life.

Information Technology Centre, Caernarfon
The Gwynedd County Council is sponsoring a Government Information Technology Centre to
provide skilled training in modern technology and production, electronics, use of computers and
modern electronic equipment by practical and theoretical training. The project is funded jointly
with the MSC.

with the MSC The Centre will be situated in CAERNARFON and the first intake of trainees will be in July.

General Manager

POI (3-7|£10,07|£11,184 17(J) (3-7] 2.10,071-2.11, 104
Responsible for overall management of the Centre, including liaison with untside bindies, marketing products, and advising on technical innovations. Candidates should have experience of most of the following: electronics, computer programming, keyloard skills, data munipulation, software, equipment maintenance, word processing and management.

Senior Instructor

SO 1/2 £8,658-£10,071
Reporting to the General Manager and responsible for four Instructors and thirty young Trainces. The post is as above — Candidates must have specialist experience in at lenst two of those areas required for the General Manager. It is envisinged that both these posts will provide permanent employment subject to receipt of animal grant aid from the MSC.

A knowledge of Welsh would be an advantage for both posts.

Relocation allowances in appropriate cases.

Application forms and further particulurs from the County Personnel Officer, Cuunty Offices, Caernarfon. Telephone Caernarfon 4121 Ext 311.

Canolfan Technoleg Gwybodaeth, Caernarfon
Mae Cygnor Sir Gwynedd yn noddi Canulfan Technuleg Gwybodneth a sefydlir gan y
Llywodraeth i roi hyfforddiant arbenigol mewn technoleg a chynhyrchiant cyfoes' electroneg,
defnyddin cyfrifiailuron a chyforpar electronig mulern drwy hyfforddiant ymarferul a
plameaniaethol. Telir am y prosiect or y cyd efn'r Comisiwn Gwasanaethau Gweithwyr.
f.leolit y Ganolfan yng Nghaernarfon a derbynnir yr hyfforddeion cyntaf ym mis Gorffennaf.

Rheolwr Cyffredinol PO1 (3-7) £10,071-£11,184

Cyfrifol am reofaeth gyffiedinol y Canolfan, gan gynnwys cydweithio a chyrff allanol, marchnais cynnyrch a rhroi cyngor am ddyfeiaindau technegol newydd. Dylai yngeiswyr fod a phrofiad u'r flan fwyaf o'r canlynol: electroneg, rhaglennu cyfrifiadur, medrau allweddell, trin data, ineddullinn, cynnal a chadw offer, prosesu geirlau a rheoli.

Uwch Hyfforddwr SO 1/2 £8,658-£10,071

Atchol i'r Rheolwr Cyffredinol ; ehyfrifol am hedwar llyffnrddwr a deg ar hugnin o ilyfforddeion ifnine. Mae'r swydd fel yr uchod — Rhaid i ymgeiswyr fod a phrofiad arbenigol mewn o leiaf (ddau n'r meysydd hynny sy'n ofynnol ar gyfer awydd y Rheolwr Cyffredinol. Rhagwelir y bydd y ddwy swydd yntn'n darpurn gwaith porhaol ai yr amod y derbynnir cynfiorilldel blynyddol oddiwrth y Cumisiwn Gwasanaethau Gweithwyr.

Byddai gwybodaeth o'r Gymraeg yn fantais ar gyfer y ddwy swydd.

Tein lwfans mudo mewn achosion priodol.

Mue iffurflenni cais a manylion pellach i'w eael nddiwrth
Swydding Personel y Sir, Swyddfa'r Sir, Caernarfon — Efun
Caernarfun 4121 est. 311.

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Project Leader

SALARY P.O.I. £10,569 to £11,565

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Applications in Collection with removal expenses/legal fees/disturbance allowance will be given where appropriate. Further information regarding this post may be had by telephoning Mr J A Gow on (0786).

Applications in writing, stating age, experience and qualifications should be sent to the Computer Manager, Central Regional Council, Viewforth, Stirling by 5 June, 1983.

(Central Regional Council

for the development and maintenance of (a wide range of) on-line and batch applications.

A minimum of five years relevant data processing experience is needed, together with a proven ability of systems analysis and design. Previous Local Government experience is not necessary, but would be advantaged.



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Plexible Working Hours Scheme in accordance with the requirements of the

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SALARY up to £12,174 (pay award pending)

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iustrial marketa. The position carries a good basic salary plus com-mission, 2-litre company oar and excellent banefits! packags: Appliestions, in writing only, to;

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